SMART

EXCEL

2025-2026

Concise Guide for Excel Users.

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SECTION I: What is Excel?

Microsoft Excel is a spreadsheet application that is commonly used for a variety of uses. At its core, Excel is a table consisting of rows and columns. Excel is composed of rows and columns and uses a spreadsheet to display data. Features include: calculation, graphing tools, pivot tables, and a macro programming language called Visual Basic for Applications.

What can I do with this?

The data within a table can be sorted by any column, which means that the rows can be ordered by last name or first name alphabetically, by the ID number ascending or descending, by the amount paid ascending or descending, or by the date. You can also filter the data in the table to have only specific values show.

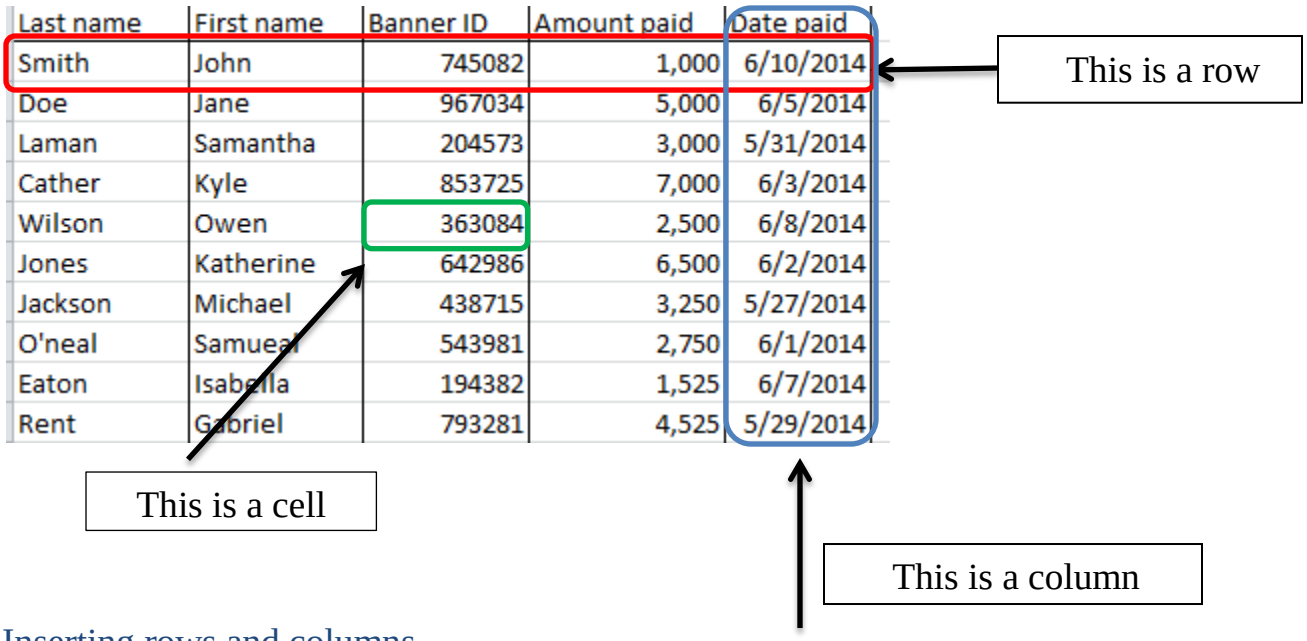
SECTION II: Cells, Rows, and Columns

What is a cell?

A cell, outlined in green below, is an individual block within a table in which you can enter values, such as words or numbers.

What are rows and columns?

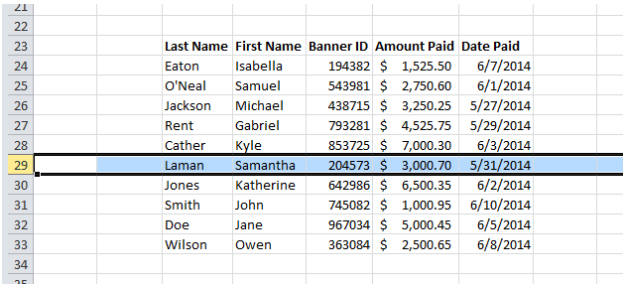
Rows, outlined in red below, are a horizontal group of cells. Columns, outlined in blue below, are a vertical group of cells.


Last name | First name | Banner ID | Amount paid | Date paid
Smith | John | 745082 | 1,000 | 6/10/2014
Doe | Jane | 967034 | 5,000 | 6/5/2014
Laman | Samantha | 204573 | 3,000 | 5/31/2014
Cather | Kyle | 853725 | 7,000 | 6/3/2014
Wilson | Owen | 363084 | 2,500 | 6/8/2014
Jones | Katherine | 642986 | 6,500 | 6/2/2014
Jackson | Michael | 438715 | 3,250 | 5/27/2014
O'neal | Samueal | 543981 | 2,750 | 6/1/2014
Eaton | Isabella | 194382 | 1,525 | 6/7/2014
Rent | Gabriel | 793281 | 4,525 | 5/29/2014
This is a row
This is a cell
This is a column

Inserting rows and columns

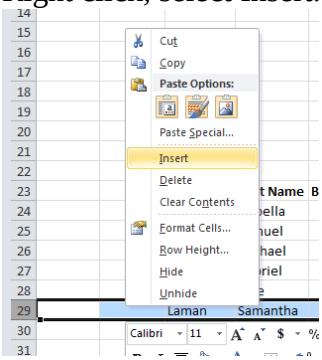
To Add a Row:

1. Select the entire row below where you want to add the new row.



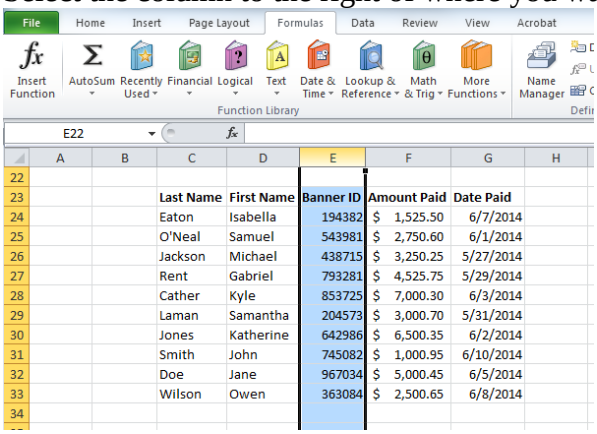
Last Name	First Name	Banner ID	Amount Paid	Date Paid
Eaton	Isabella	194382	$ 1,525.50	6/7/2014
O'Neal	Samuel	543981	$ 2,750.60	6/1/2014
Jackson	Michael	438715	$ 3,250.25	5/27/2014
Rent	Gabriel	793281	$ 4,525.75	5/29/2014
Cather	Kyle	853725	$ 7,000.30	6/3/2014
Laman	Samantha	204573	$ 3,000.70	5/31/2014
Jones	Katherine	642986	$ 6,500.35	6/2/2014
Smith	John	745082	$ 1,000.95	6/10/2014
Doe	Jane	967034	$ 5,000.45	6/5/2014
Wilson	Owen	363084	$ 2,500.65	6/8/2014

2. Right click, select Insert.



To Add a Column

1. Select the column to the right of where you want to add the new column


File Home Insert Page Layout Formulas Data Review View Acrobat
Insert Function AutoSum Recently Used Financial Logical Text Date & Time Lookup & Reference Math & Trig More Functions Name Manager
Function Library
E22

Last Name	First Name	Banner ID	Amount Paid	Date Paid
Eaton	Isabella	194382	$ 1,525.50	6/7/2014
O'Neal	Samuel	543981	$ 2,750.60	6/1/2014
Jackson	Michael	438715	$ 3,250.25	5/27/2014
Rent	Gabriel	793281	$ 4,525.75	5/29/2014
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Laman	Samantha	204573	$ 3,000.70	5/31/2014
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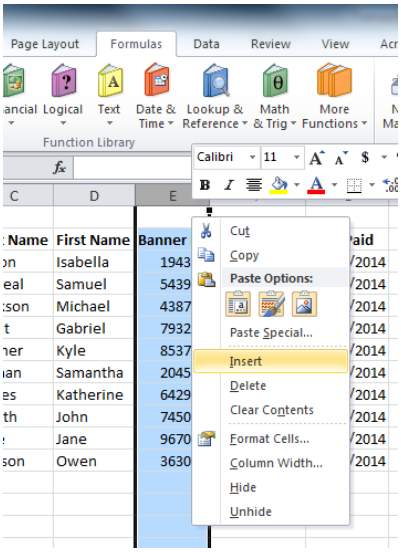
Doe	Jane	967034	$ 5,000.45	6/5/2014
Wilson	Owen	363084	$ 2,500.65	6/8/2014

2. Right click, select Insert.



Section III: Navigation

Navigating through your spreadsheet doesn't have to be difficult. Using some very simple keystrokes, you can move from one end of your spreadsheet to the other faster than using the scroll bar.

Moving Between Cells

Use the arrow keys on your keyboard to move from one cell to another

Use the Tab key to move horizontally to the right. Hold the Shift key and press the Tab key to move horizontally to the left.

Use the Enter key to move vertically downward. Hold the Shift key and press the Enter key to move vertically upwards.

Selecting Multiple Cells

To select a range of data:

1. Select the first cell in the data range.
2. Hold the Shift key.
3. Select the last cell in the data range.
   OR

Select the beginning range of data, drag the cursor to select the range of data

Selecting Entire Rows and Columns

Excel organizes a data sheet by numbering the rows and lettering the columns.
To select an entire row:

Select the number of the row

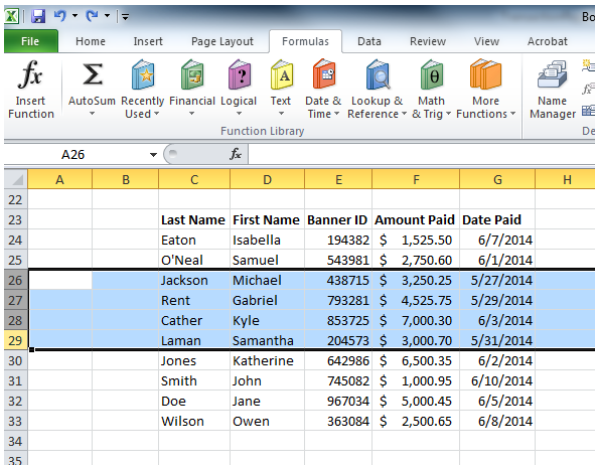
To select an entire column:

Select the letter of the column.

Selecting Multiple Rows and Columns

To select multiple rows or columns

1. Select the entire first row
2. Hold the Shift Key
3. Select the entire last row of the range of data



	A	B	C	D	E	F	G	H
22								
23			Last Name	First Name	Banner ID	Amount Paid	Date Paid	
24			Eaton	Isabella	194382	$ 1,525.50	6/7/2014	
25			O'Neal	Samuel	543981	$ 2,750.60	6/1/2014	
26			Jackson	Michael	438715	$ 3,250.25	5/27/2014	
27			Rent	Gabriel	793281	$ 4,525.75	5/29/2014	
28			Cather	Kyle	853725	$ 7,000.30	6/3/2014	
29			Laman	Samantha	204573	$ 3,000.70	5/31/2014	
30			Jones	Katherine	642986	$ 6,500.35	6/2/2014	
31			Smith	John	745082	$ 1,000.95	6/10/2014	
32			Doe	Jane	967034	$ 5,000.45	6/5/2014	
33			Wilson	Owen	363084	$ 2,500.65	6/8/2014	
34								
35								

SECTION IV: Formatting

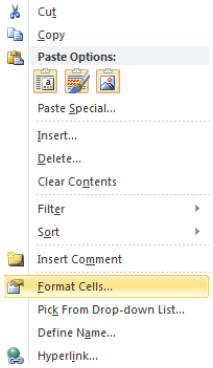
Formatting in Excel allows you to change the appearance of cells or the appearance of the spreadsheet as a whole.

Cells

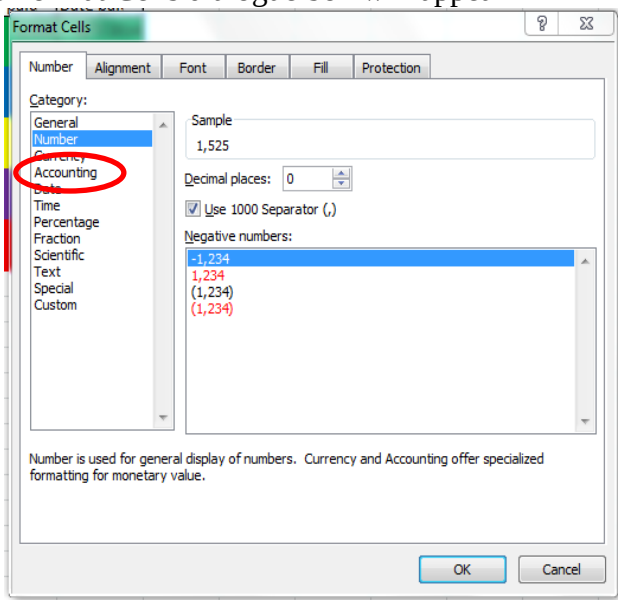
Formatting cells allow you to change the appearance of the value within the cell without changing the value, such as converting number into a currency or percentage value.

To Format a Cell:

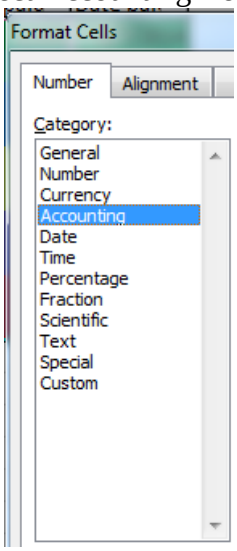
1. Select the cell or cells to format
2. Right click and select *Format Cells*.



The Format Cells dialogue box will appear



To convert a numeric value into an accounting value:
Select Accounting from the list of Categories.



Click Ok.

Last Name	First Name	Banner ID	Amount Paid	Date Paid
Eaton	Isabella	194382	$ 1,525.50	6/7/2014
O'Neal	Samuel	543981	$ 2,750.60	6/1/2014
Jackson	Michael	438715	$ 3,250.25	5/27/2014
Rent	Gabriel	793281	$ 4,525.75	5/29/2014
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Doe	Jane	967034	$ 5,000.45	6/5/2014
Wilson	Owen	363084	$ 2,500.65	6/8/2014

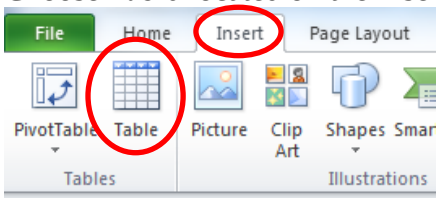
Tables

A table is a way of formatting data so that data may be sorted. Tables also display rows in alternating colors to make the data easier to read.

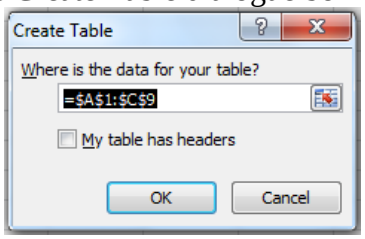
Choosing a Table Style to Create a Table

To Choose a Table Style:

1. Select the range of cells to include in the table.
2. Choose *Table* located on the Insert tab.



The Create Table dialogue box will appear.



If you selected a range of data to include in the table, the table contents will already be populated in the *Where is the data for you table* field.

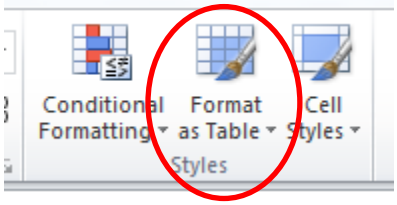
To include headers in the table, select the *My Table has Headers* checkbox.

To Create a Table from the Home Tab:

1. Select the range of cells to include in the table.

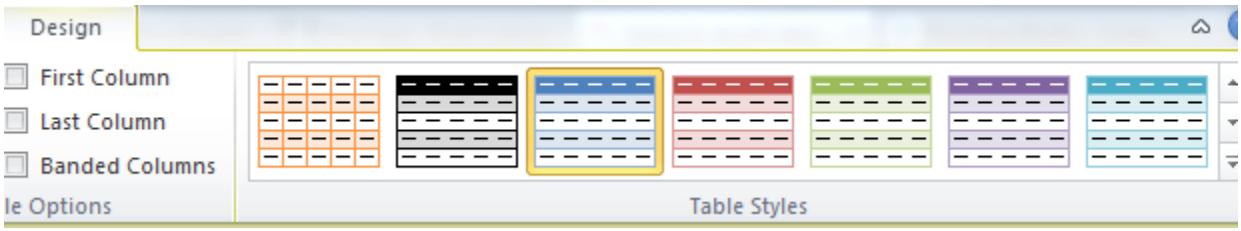
2. Select *Format as Table*.

3. Follow the steps listed above to create a table.



Adjust the Table Style

Select the table, and choose the *Table Style* located on the Design tab.

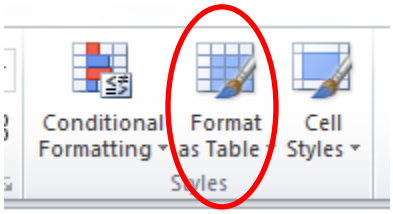


Creating or Deleting a Custom Table Style

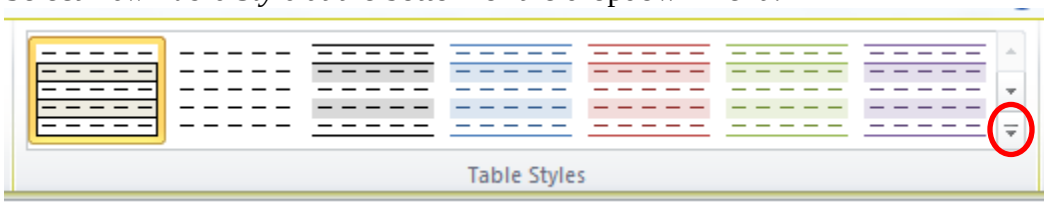
To Create a Custom Table:

1. Select your data

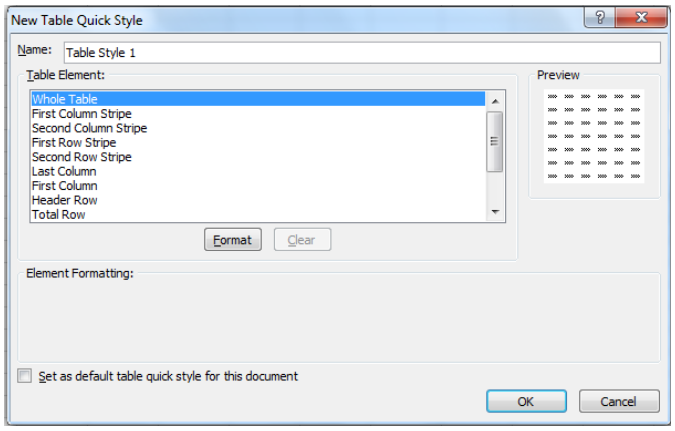
2. Choose *Format as Table*.



3. Select *New Table Style* at the bottom of the dropdown menu.



The New Table Quick Style dialogue box will appear.



4. Select any of the table elements to format the table as desired.

The Preview box allows you to view the table before completing formatting changes. Select OK to apply the table to your data.

To Set this Table as a Default Table:

1. Select the *Set as default table quick style for this document* option

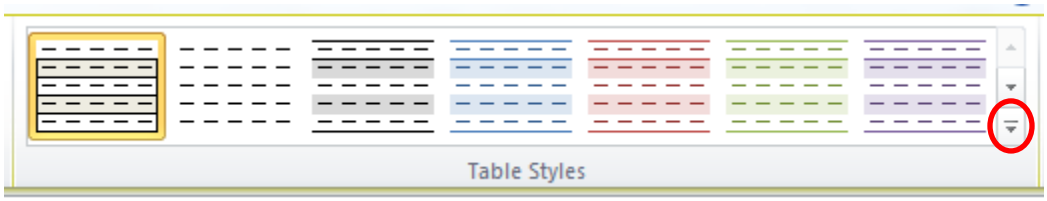
To Delete a Custom Style:

1. Select *Format as Table.*
2. Find the custom style located within the *Custom* section
3. Right click on the style, select *Delete.*

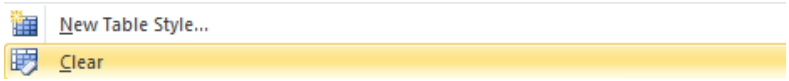
Removing a Table Style

To Remove a Table Style from and Existing Table:

1. Select the contents of the table.
2. Choose the *More* button.



3. Choose *Clear*.

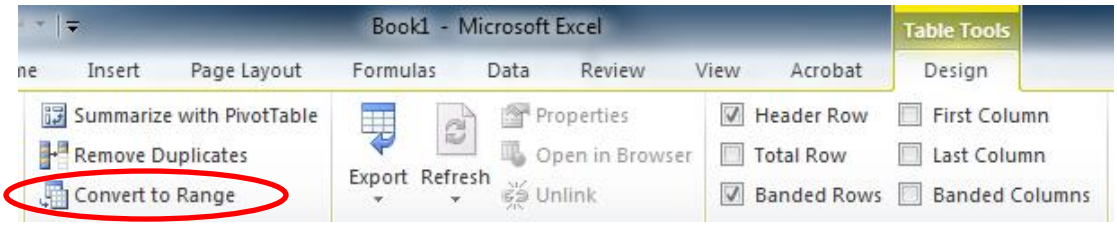


This will clear the table style but the data will still remain in a table format.

Converting a Table to a Range of Data

To Convert an Existing Table to a Range of Data:

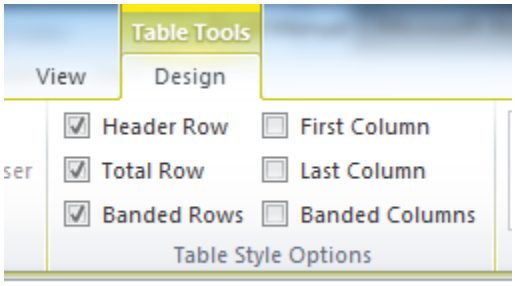
1. Select the table.
2. Select *Convert to Range*.
3. Select *Yes*.



Formatting Table Elements

To Format the Elements of a Table Style:

1. Select the contents of the table.
2. *Table Style Options* contains various table formatting options.



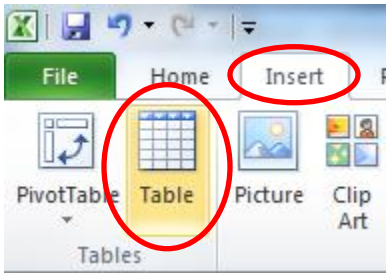
3. Select the desired checkboxes to change the format of the table.

Header Row – Creates a row at the top of the table for headers.
Total Row – Creates a row at the bottom of the table populates a total sum for each column.
Banded Rows – Shades every other row in the table.
First Column – Shades the entire first column the same color as the header row.
Last Column – Shades the entire last column the same color as the header row.
Banded Columns – Shades every other column in the table.

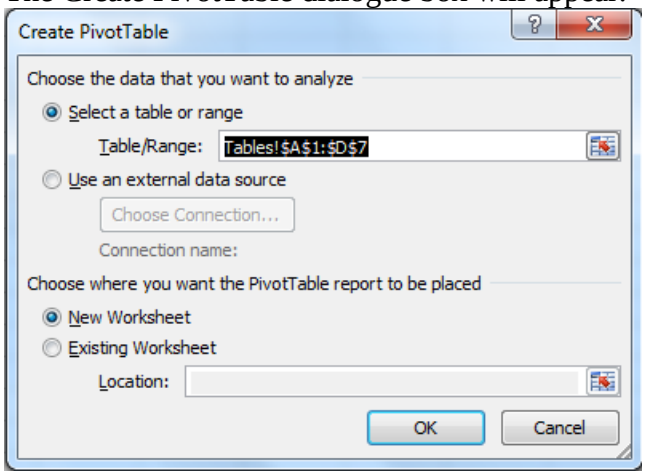
Pivot Tables

A pivot table is a data summarization tool within Excel. A pivot table can sort, count, total and average the data within a table or spreadsheet.

To Insert a Pivot Table:
1. Select any cell in your data range.
2. Select Pivot Table located on the Insert tab.



The Create PivotTable dialogue box will appear.

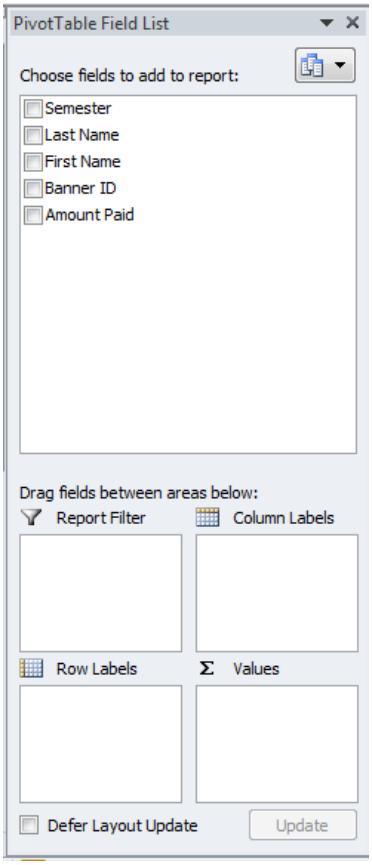


Excel will automatically select the data for the pivot table.
Excel will also automatically select New Worksheet as the destination for the pivot table.

3. Click *Ok*.
   A new worksheet will be added for the pivot table.

   Initially, the spreadsheet will appear blank.

   The PivotTable Field List is located to the right.



4. Choose the fields to see by selecting column headers within *Choose Field to Add to Report*.

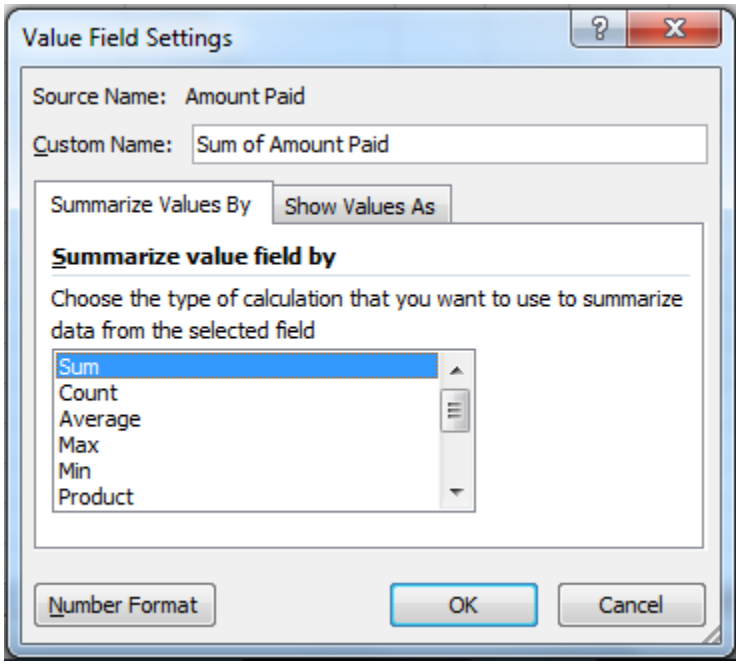
   You can also drag and drop a field into a Pivot table Area within the dialogue box.

   Pivot Table Areas:
   Report Filter – Filters the entire pivot table based on fields in that area
   Column Labels – Adds columns to the table based on fields in that area;
   Row Labels – Adds rows to the table based on fields in that area;
   Values – Performs an Auto Sum action in the table based on the fields in that area.

In a pivot table, you can sort and filter like you can with any other data range.

To Change the Summary Calculation Value:
1. Click on any cell in the *Grand Total* row
2. Select *Value Field Settings* from the menu.

This will open the Value Field Settings dialogue box:



3. Choose the calculation you want to summarize.
4. Click *Ok*.

The *Values* field will change to the selected calculation.

Conditional Formatting

Conditional formatting allows you to change the appearance of a cell, based on criteria that you define, using predetermined rules in Excel.

Highlight Cells Rules

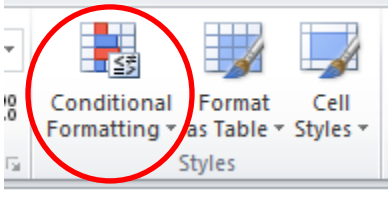
Using the highlight cells rules, you can highlight cells in your data that are greater or less than a value, between or equal to a value or contain a specified or duplicate value.

Greater Than

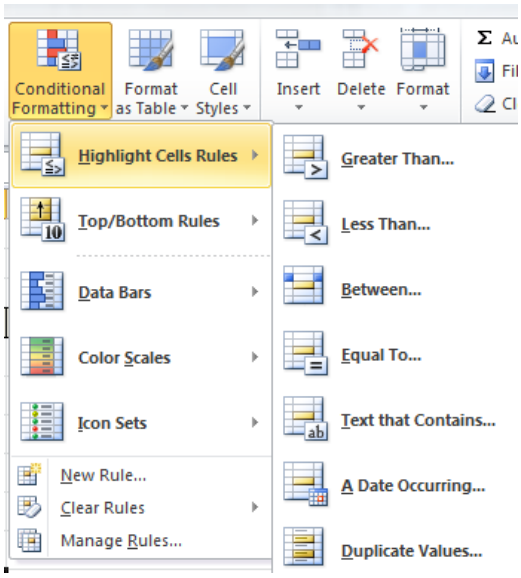
To highlight cells which contain data greater than a specific value:

1. Highlight the data range.

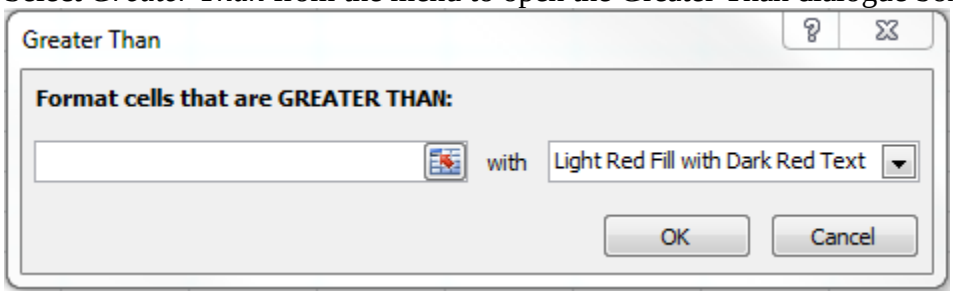
2. Select the *Conditional Formatting* tool



3. Hover over *Highlight Cells Rules* to reveal the menu of different rules.



4. Select *Greater Than* from the menu to open the Greater Than dialogue box:



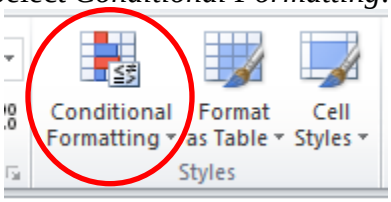
5. Enter the value that you want to set as your lower limit for the Greater Than condition.
6. Select the type of formatting from the dropdown menu.
7. Select Ok.

The cells which contain a value greater than the value you specified will now appear with the cell formatting which you selected.

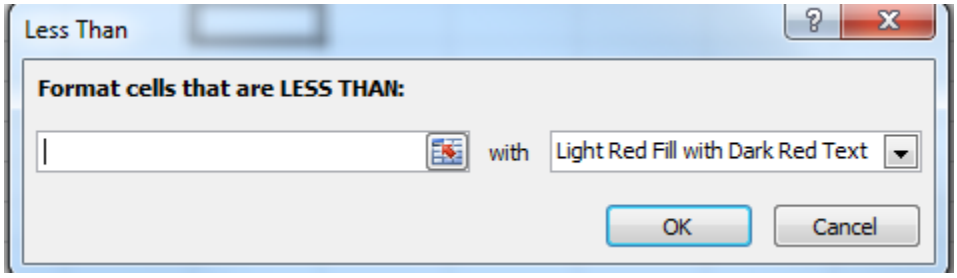
Less Than

To highlight cells that contain data less than a specific value:

1. Highlight the data range.
2. Select *Conditional Formatting*.



3. Hover over *Highlight Cell Rules*.
4. Select *Less Than* to open the Less Than dialogue box.



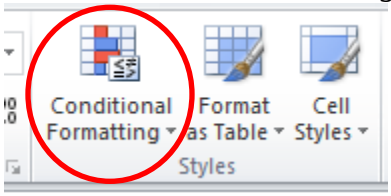
5. Enter the value that you want to set as your upper limit for the Less Than condition
6. Select *Ok*.

The cells which contain a value less than the value you specified will now appear with the cell formatting which you selected.

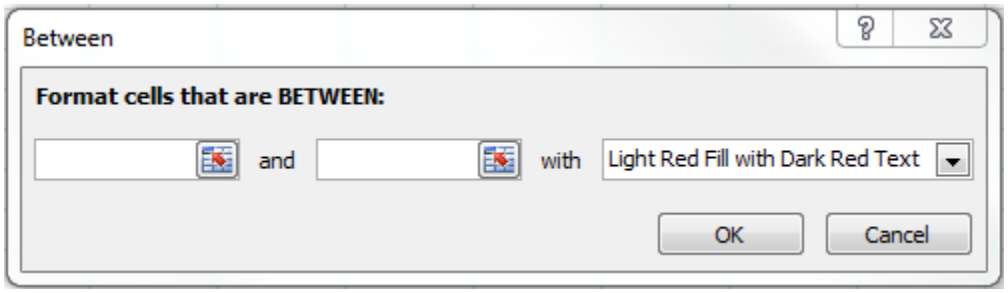
Between

To highlight cells between two specific values:

1. Highlight the data range.
2. Select *Conditional Formatting*.



3. Hover over *Highlight Cells Rules* to reveal the menu of different rules.
4. Select *Between* to open the Between dialogue box.



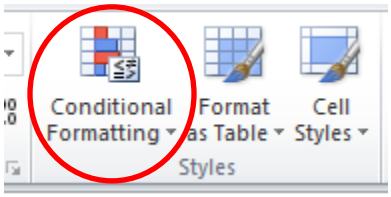
5. Enter the lower limit in the first box and the upper limit in the second box.
6. Select the cell formatting.
7. Select *Ok*.

The cells which contain a value between the two specified values will now appear with the cell formatting which you selected.

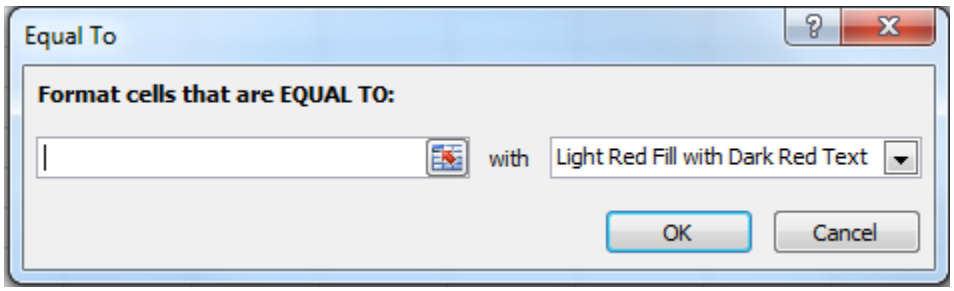
Equal To

To highlight cells equal to a specific value:

1. Highlight the data range.
2. Select *Conditional Formatting*.



3. Hover over *Highlight Cells Rules*.
4. Select *Equal To* to open the Equal To dialogue box.



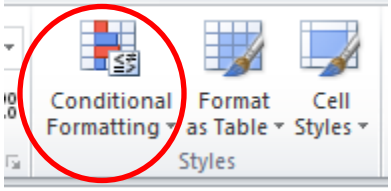
5. Enter the value that you're looking for.
6. Select the type of cell formatting you wish to use.
7. Select *Ok*.

The cells which contain the specified value will now appear with the cell formatting which you selected.

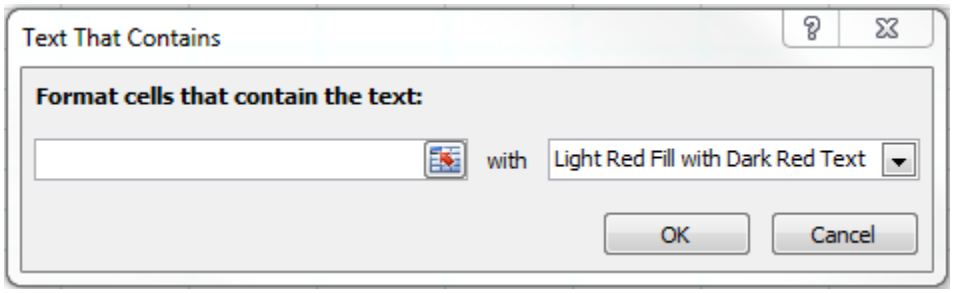
Text That Contains

To highlight cells that contain a certain character(s):

1. Highlight the data range.
2. Select *Conditional Formatting*.



3. Hover over the *Highlight Cells Rules*.
4. Select *Text That Contains* to open the Text That Contains dialogue box.



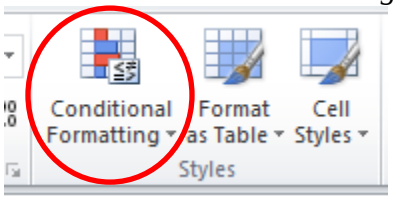
5. Enter the character(s) you're looking for.
6. Select the type of cell formatting you wish to use.
7. Select *Ok*.

The cells which contain the specified character(s) will now appear with the cell formatting which you selected.

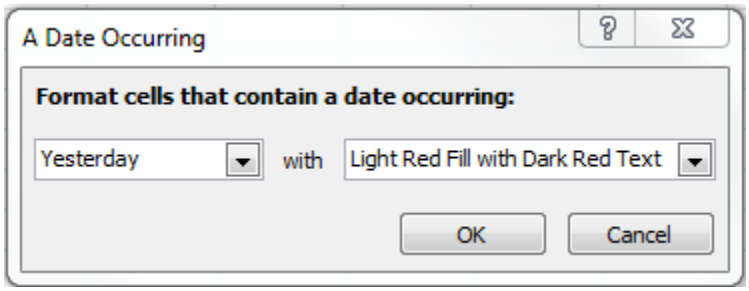
A Date Occurring

To highlight cells that contain a certain date or date range:

1. Highlight the data range.
2. Select *Conditional Formatting*.



3. Hover over the *Highlight Cells Rules*.
4. Select *A Date Occurring* to open the Date Occurring dialogue box.



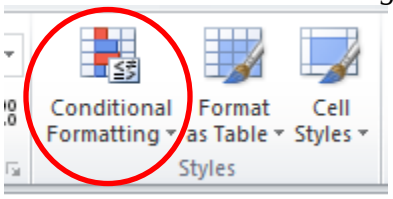
5. Select the date or date range that you're looking for.
6. Select the type of cell formatting.
7. Select *Ok*.

The cells which contain the specified date or date range will now appear with the cell formatting which you selected.

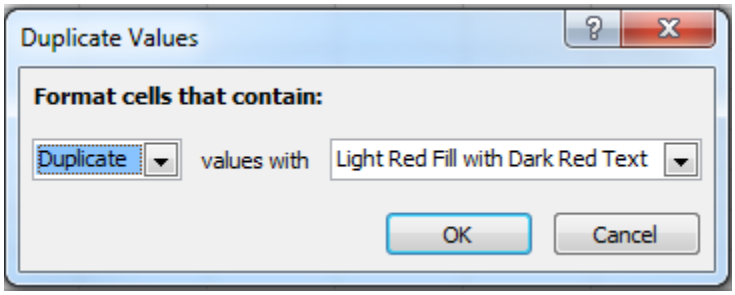
Duplicate Values

To highlight cells that contain either duplicate or unique values:

1. Highlight the data range.
2. Select *Conditional Formatting*.



3. Hover over *Highlight Cells Rules*.
4. Select *Duplicate Values* to open the Duplicate Values dialogue box.



5. Select either *Duplicate* or *Unique* from the drop down menu.
6. Select the type of cell formatting you wish to use.
7. Select *Ok*.

The cells which contain either duplicate or unique values will now appear with the cell formatting which you selected.

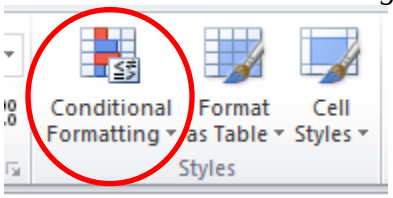
Top/Bottom Rules

Top and bottom rules can be used to highlight cells that are the top or bottom ten items or the top or bottom ten percent. They can also be used to identify items above or below the average.

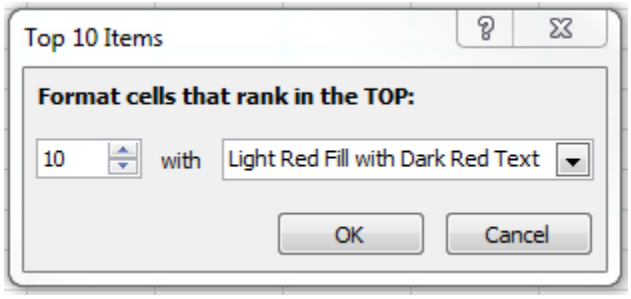
Top 10 Items

To highlight cells that are the top 10 items in your data:

1. Highlight your entire data range.
2. Select *Conditional Formatting*.

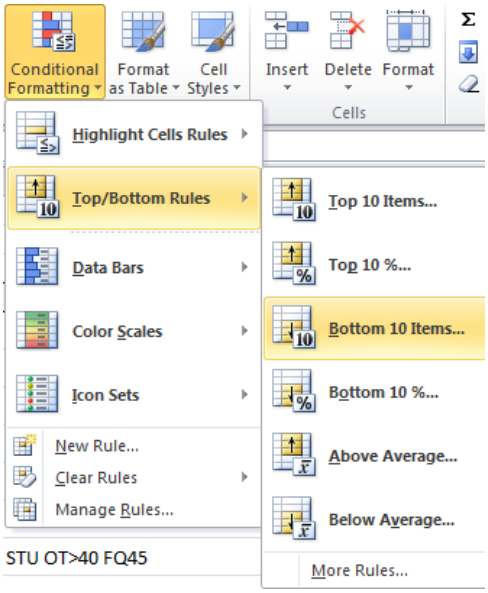


3. Hover over *Top/Bottom Rules*.
4. Select *Top 10 Items* to open the Top 10 Items dialogue box.



5. Enter the number of items to identify.
6. Select the type of cell formatting you wish to use.
7. Select *Ok*.

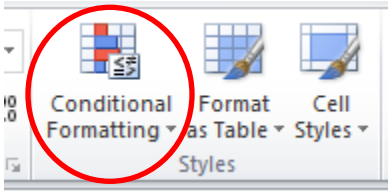
The cells which are in the top selected number will now appear with the cell formatting which you selected.
To identify the bottom 10 items select *Bottom 10 Items* instead of Top 10 Items.



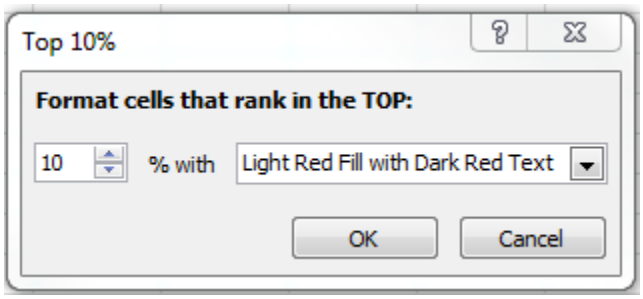
Top 10%

To highlight cells that are in the top percentage of items in your data:

1. Highlight the data range.
2. Select *Conditional Formatting*.



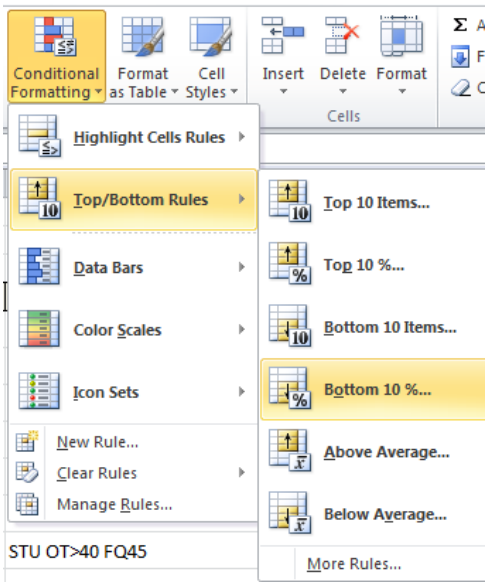
3. Hover over *Top/Bottom Rules*.
4. Select *Top 10%* to open the Top 10% dialogue box.



5. Enter the number of items to identify.
6. Select the type of cell formatting you wish to use.
7. Select *Ok*.

The cells which are in the top selected percentage will now appear with the cell formatting which you selected.

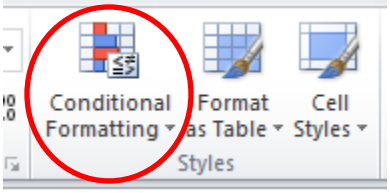
To identify the bottom 10 percent select *Bottom 10 Percent* instead of Top 10 Percent.



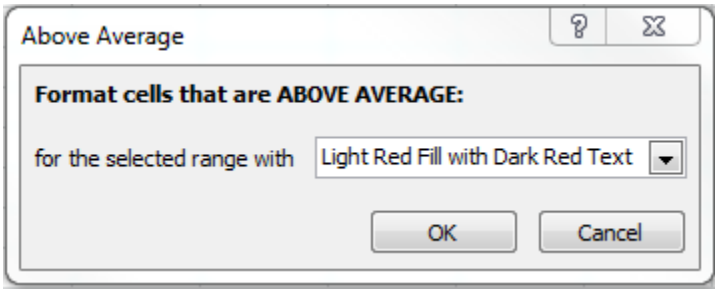
Above Average

To highlight cells that are above the average value of your data:

1. Highlight the data range.
2. Select *Conditional Formatting*.

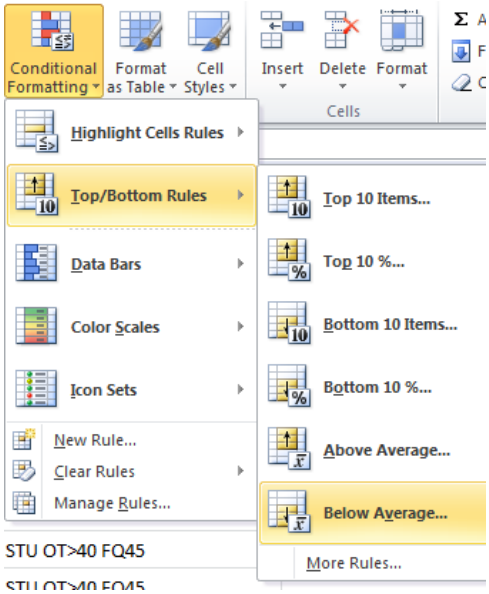


3. Hover over *Top/Bottom Rules*.
4. Select *Above Average* to open the Above Average dialogue box:



Select the type of cell formatting you wish to use. Select *Ok*. The cells which are above the average value of your data will now appear with the cell formatting which you selected.

To identify items below the average value select *Below Average* instead of Above Average.

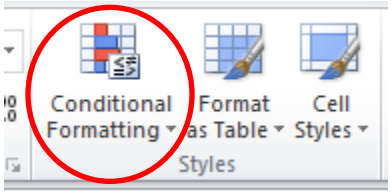


Data Bars

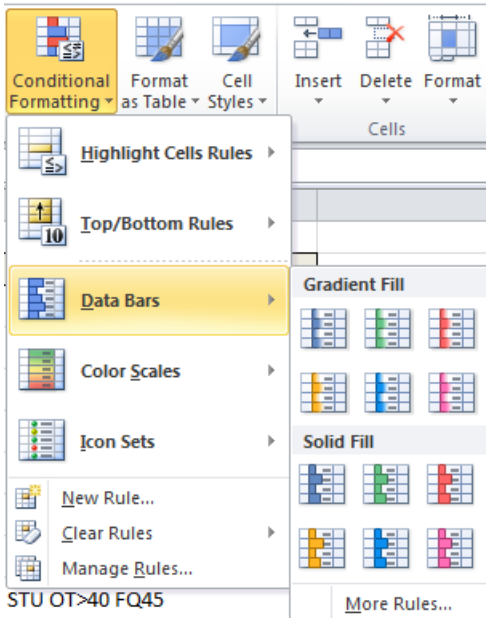
Conditional formatting in Excel can be used to convert cells with numeric data into a bar graph. Two bar graph options are gradient and solid filled graphs.

To convert data into a bar graph:

1. Highlight your entire data range.
2. Select *Conditional Formatting*.

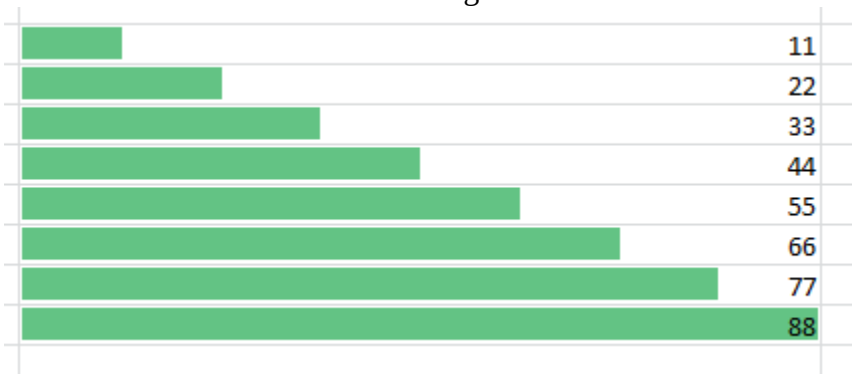


3. Hover over *Data Bars*.



4. Choose either Gradient or Solid and select a color for the bar graph.

The data cells will now be filled with a gradient color based on the value in the cell.

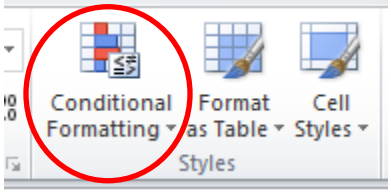


Color Scales

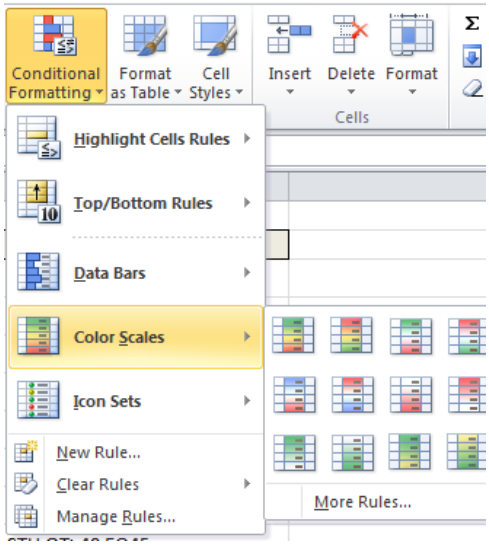
You can use the Color Scales rules to color the cells in your data based on their numerical value. Color Scales makes it easier to visualize the data.

To add a color scale to data:

1. Highlight the data range.
2. Select *Conditional Formatting*.

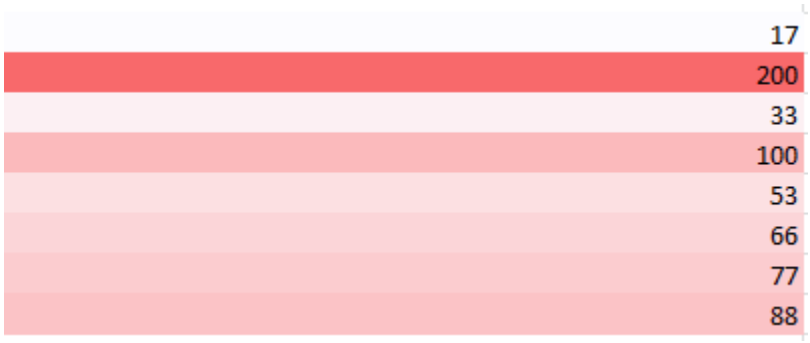


3. Hover over *Color Scales*.



4. Select a color scale.

The data cells will now be displayed as a color scale based on the value of the cell.

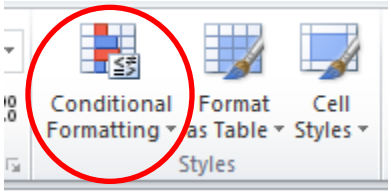


New Rule

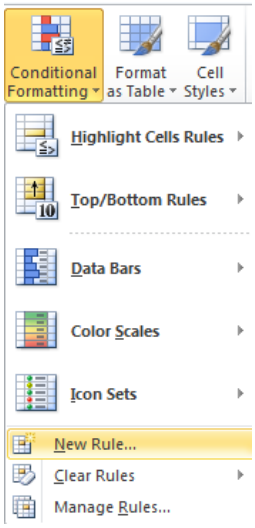
If the rules outlined above do not cover what you need, you can create your own rule.

To create your own rule:

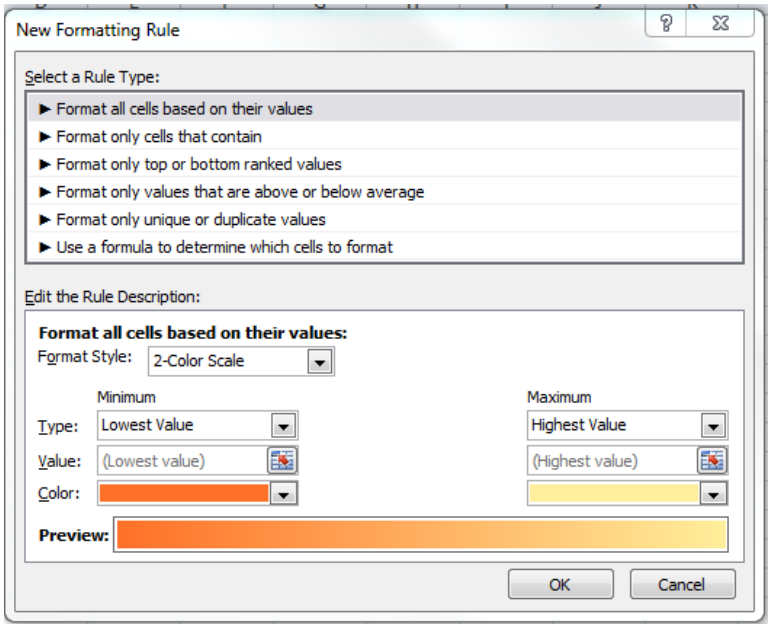
1. Highlight the cells in your data range.
2. Select the *Conditional Formatting* tool.



3. Select *New Rule*.



The New Rule dialogue box will open.


New Formatting Rule
Select a Rule Type:
► Format all cells based on their values
► Format only cells that contain
► Format only top or bottom ranked values
► Format only values that are above or below average
► Format only unique or duplicate values
► Use a formula to determine which cells to format
Edit the Rule Description:
Format all cells based on their values:
Format Style: 2-Color Scale
Minimum
Maximum
Type: Lowest Value
Highest Value
Value: (Lowest value)
(Highest value)
Color:
Preview:
OK
Cancel

4. Select the Rule Type.

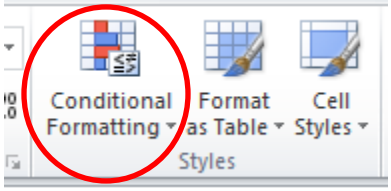
Each rule type will change the appearance of the dialogue box, as it changes the rule description.

Clear Rules

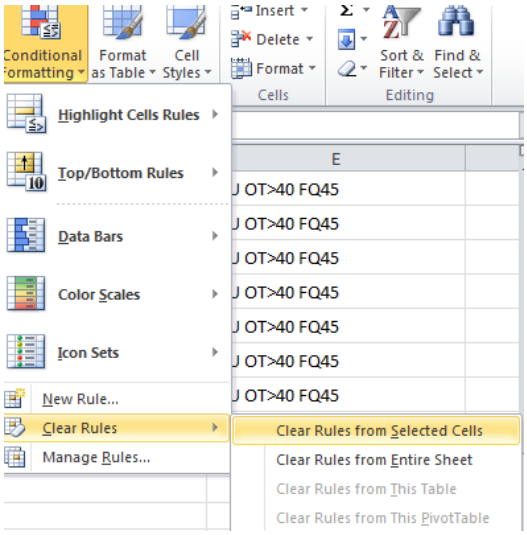
Clear Rules clears any conditional formatting rules from the selected cells, the entire spreadsheet, the table, or the pivot table.

To clear conditional formatting:

8. Select *Conditional Formatting*.



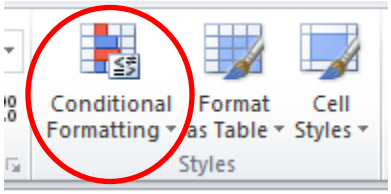
1. Hover over *Clear Rules*.
2. Select the range for which to clear conditional formatting.



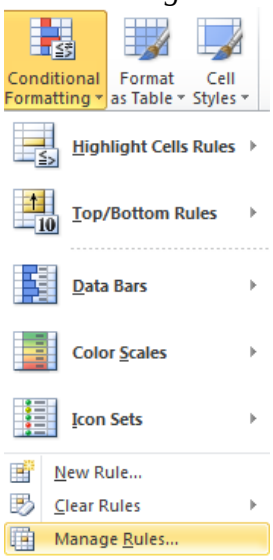
Manage Rules

Manage Rules allows you to view, edit, delete, and add rules.
To manage conditional formatting rules:

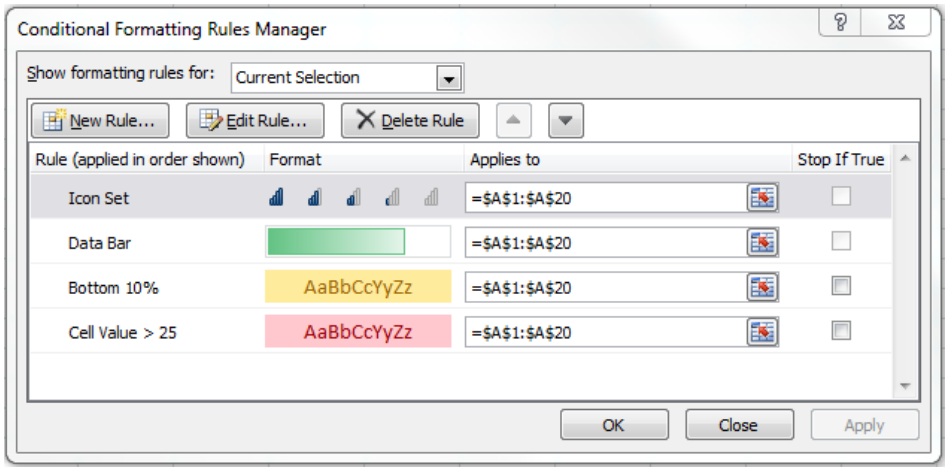
1. Select *Conditional Formatting*.



2. Select *Manage Rules*.



This will open the Conditional Formatting Rules Manager dialogue box:



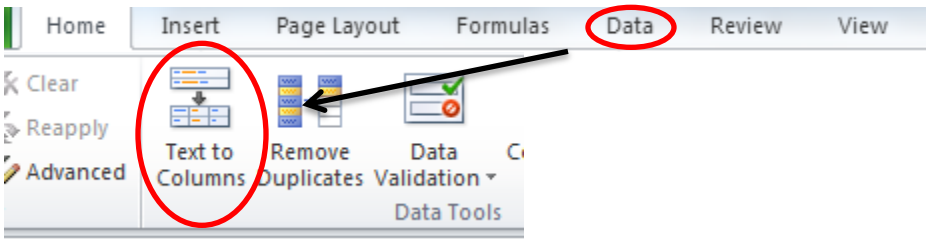
Select the formatting rules for dropdown to view rules for the current selection or any other worksheet or table within the workbook. You may add, edit or delete a rule from the Conditional Formatting Rules Manager.

SECTION V: Separating Text within a Cell

When data is combined within a cell, such as a first and last name, Excel is able to separate this data into two cells.

To separate data within a cell:

1. Insert a blank column to the right of the column containing the merged data.
2. Highlight the column of full names.
3. Select the *Data* tab.
4. Select *Text to Columns*.

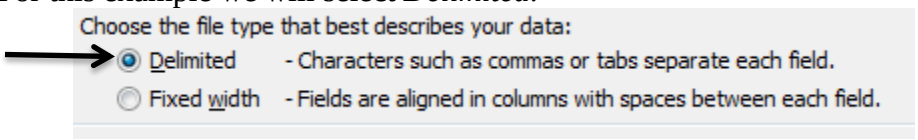


The Convert Text to Columns Wizard dialogue box will.

5. Choose the appropriate data type.

To separate a column based on punctuation characters, select *Delimited*.
To separate a column based on spaces between each field, select *Fixed Width*.

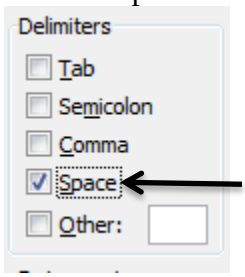
For this example we will select *Delimited*.


Choose the file type that best describes your data:
Delimited - Characters such as commas or tabs separate each field.
Fixed width - Fields are aligned in columns with spaces between each field.

6. Select *Next*.

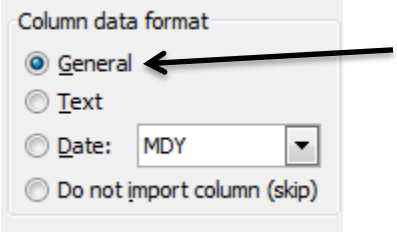
7. Choose your delimiters for the text separation.

For this example select *Space*.



8. Select *Next*.

9. Select the data format for each column.
For this example select *General*.



10. Select *Finish*.

Data will be displayed as separate columns.

Sallie Shaffer
Joseph Garcia
Sallie Shaffer
Surhid Gautam
Charles Dennis
Yasmine Johnson
Kathleen Chilton
Kathleen Chilton
Helen Martin
Helen Sue Martin
Joseph Garcia
Sallie Shaffer
Mark Abraham
Mark Abraham
Surhid Gautam
Carmen Roberts

Sallie	Shaffer
Joseph	Garcia
Sallie	Shaffer
Surhid	Gautam
Charles	Dennis
Yasmine	Johnson
Kathleen	Chilton
Kathleen	Chilton
Helen	Martin
Helen	Martin
Joseph	Garcia
Sallie	Shaffer
Mark	Abraham
Mark	Abraham
Surhid	Gautam
Carmen	Roberts

SECTION VI: Sorting

Sorting allows for alphabetic, numeric, color and even multi-level organization.

Alphabetical

To sort the data alphabetically:
1. Select the column to sort.

For this example we will sort by last name.

2. Highlight the column.

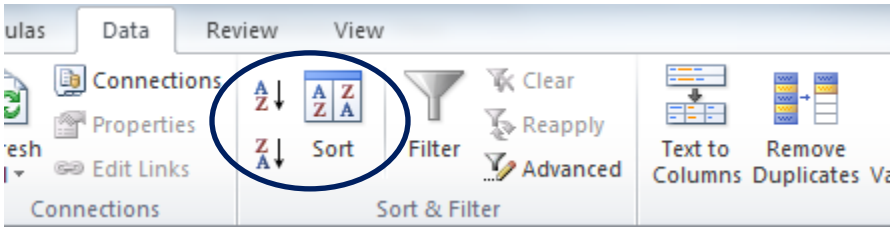
3. Select the *Data* tab.

Sorting options are located in the *Sort & Filter* section.

The Sort action, circled in blue below is used to alphabetically organize data.

The A-Z descending button is used to sort data from the lowest to highest values.

The Z-A descending button is used to sort data from the highest to lowest values.



4. Select the *A-Z* to alphabetize the data within the column.

A Sort Warning dialogue box will appear. This will ask if you want to expand the selection or continue with the current selection.

5. Select *Expand the Selection*. This will sort the entire data sheet based on the column instead of just sorting the column selected.

The data will be displayed alphabetically.

Last name	First name	Banner ID	Amount paid	Date paid
Cather	Kyle	853725	7,000	6/3/2014
Doe	Jane	967034	5,000	6/5/2014
Eaton	Isabella	194382	1,525	6/7/2014
Jackson	Michael	438715	3,250	5/27/2014
Jones	Katherine	642986	6,500	6/2/2014
Laman	Samantha	204573	3,000	5/31/2014
O'neal	Samueal	543981	2,750	6/1/2014
Rent	Gabriel	793281	4,525	5/29/2014
Smith	John	745082	1,000	6/10/2014
Wilson	Owen	363084	2,500	6/8/2014

Numerically

To numerically sort data from lowest to highest values:
1. Select the column
2. Select the *A-Z* sort button to sort data from smallest to largest quantity.

Select the Z-A sort button to sort data from largest to smallest quantity.

Multi-level Sorting

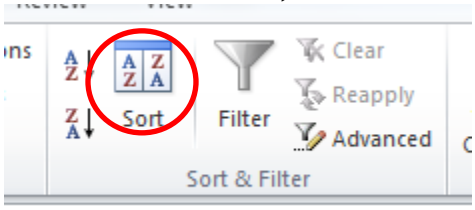
A data table may also be sorted by using multiple criteria.

For this example we will sort by Semester and then by Last Name using the following table:

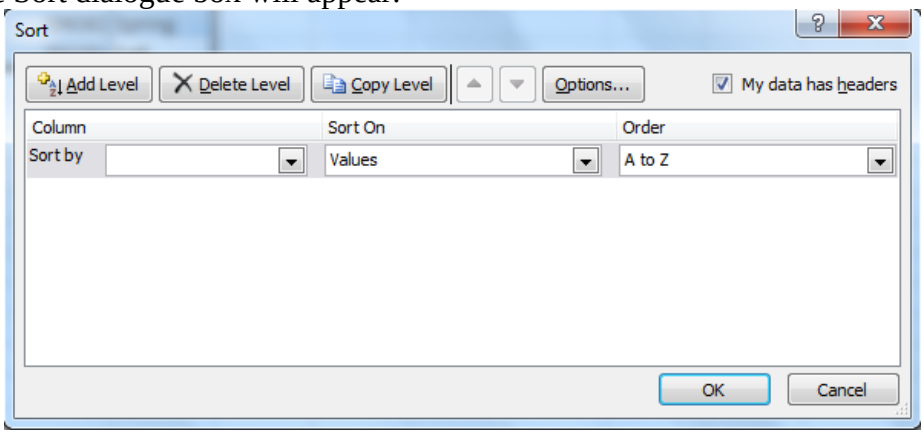
Last Name	First Name	Banner ID	Semester
Smith	John	745082	Fall
Doe	Jane	967034	Fall
Laman	Samantha	204573	Spring
Cather	Kyle	853725	Fall
Wilson	Owne	363084	Spring
Jones	Katherine	642986	Spring
Jackson	Michael	438715	Fall
O'neal	Samuel	543981	Spring
Eaton	Isabella	194382	Spring
Rent	Gabriel	793281	Fall

1. Select the first column to sort.

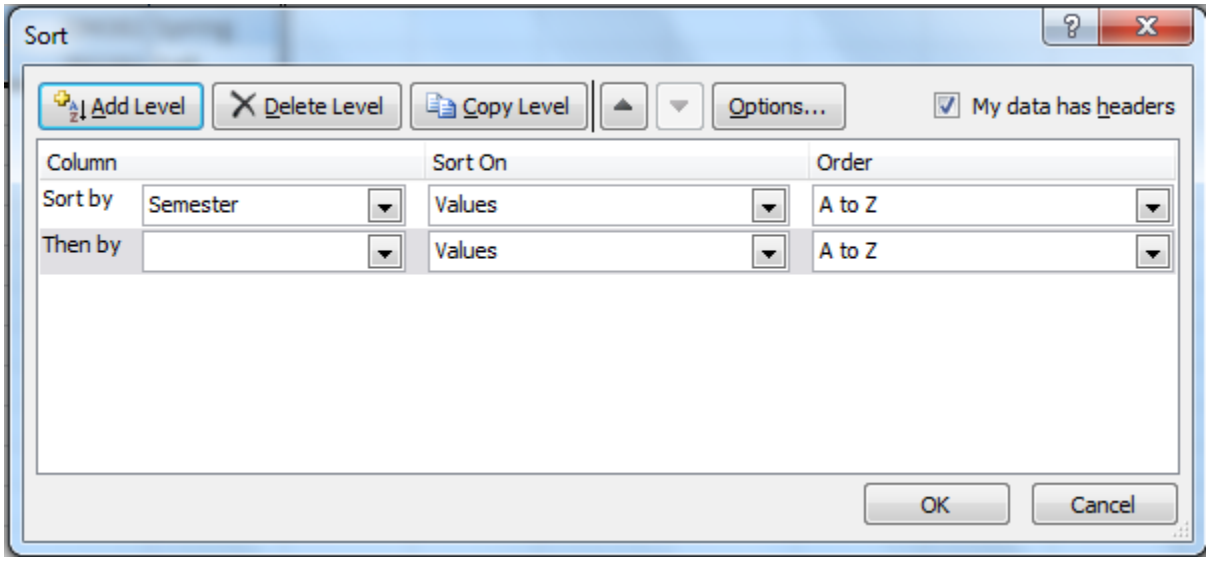
2. Select the *Sort* button, circled in red.



The Sort dialogue box will appear:



3. Open the *Sort By* dropdown.
4. Select the appropriate name of the column to sort first. For this example we will use *Semester*.
5. The *Sort On* dropdown should remain as *Values*.
6. To alphabetically sort data, select *A-Z*.
7. Ensure the *My Data Has Headers* option is selected to differentiate between column headers and data.
8. Select *Add Level* to add additional criteria to sort by.
   The *Then By* criteria will appear.



9. Select *Last Name* from the *Then By* dropdown box.

10. The *Sort On* dropdown should remain as *Values*.

11. The Order dropdown should be *A-Z*.

12. Click *Ok*.
The table will now be sorted alphabetically by semester and then by last name.

Last Name	First Name	Banner ID	Semester
Cather	Kyle	853725	Fall
Doe	Jane	967034	Fall
Jackson	Michael	438715	Fall
Rent	Gabriel	793281	Fall
Smith	John	745082	Fall
Eaton	Isabella	194382	Spring
Jones	Katherine	642986	Spring
Laman	Samantha	204573	Spring
O'neal	Samuel	543981	Spring
Wilson	Owne	363084	Spring

Sorting by Cell Color

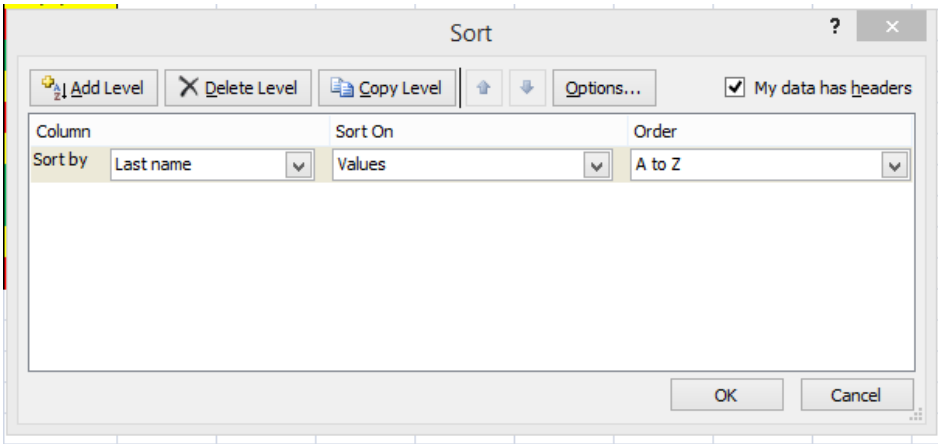
To sort a color coded data table:

Last name	First name	Banner ID	Amount paid	Date paid
Cather	Kyle	853725	7,000	6/3/2014
Doe	Jane	967034	5,000	6/5/2014
Eaton	Isabella	194382	1,525	6/7/2014
Jackson	Michael	438715	3,250	5/27/2014
Jones	Katherine	642986	6,500	6/2/2014
Laman	Samantha	204573	3,000	5/31/2014
O'neal	Samueal	543981	2,750	6/1/2014
Rent	Gabriel	793281	4,525	5/29/2014
Smith	John	745082	1,000	6/10/2014
Wilson	Owen	363084	2,500	6/8/2014

For this example we will organize the table with green at the top, yellow in the middle, and red on the bottom.

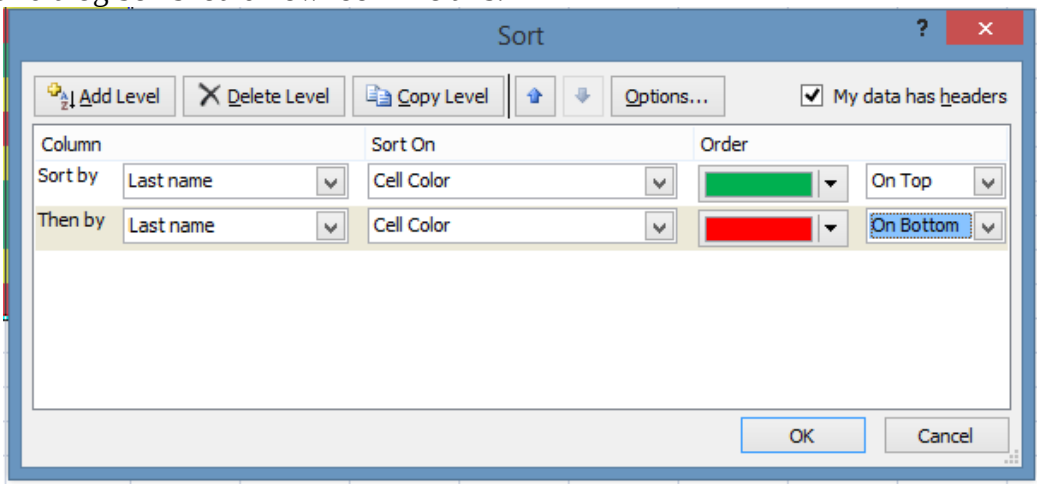
1. Highlight the column of cells to sort.
2. Select *Sort*.

The Sort dialogue box will appear.



1. Open the *Sort By* dropdown.
2. Select the name of the column to sort.
3. Select *Cell Color* from the *Sort On* dropdown.
4. Select the color to be displayed at the top of the data sheet from the *Order* dropdown.
5. Ensure *On Top* is selected.
6. Select *Add Level* to add another sort criteria.
7. Select the same column from the *Then By* dropdown.
8. Select *Cell Color* from the *Sort On* dropdown
9. Select the color to be displayed at the bottom of the data sheet.
   For this example we will use the color red.

Your dialog box should now look like this:



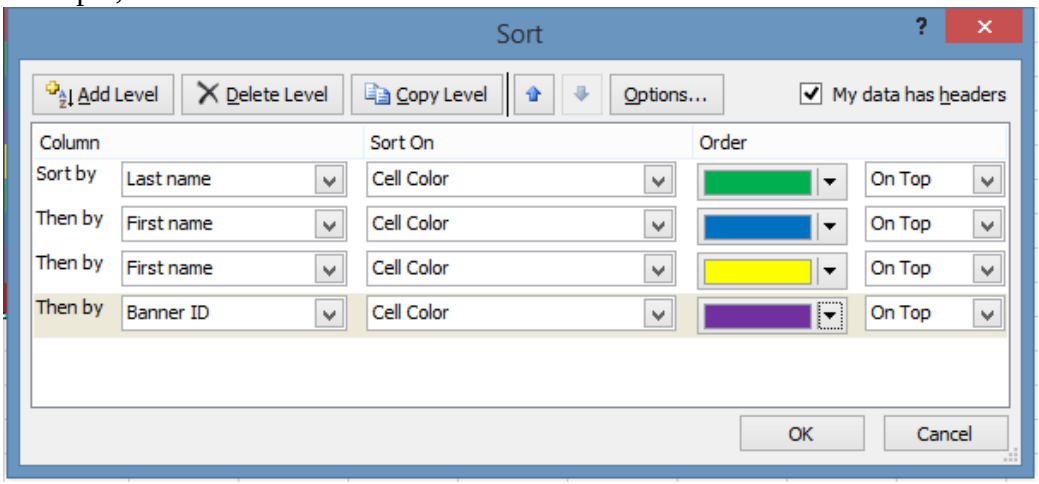
10. Select *Ok.*

The data table will now be sorted by color.

Last name	First name	Banner ID	Amount paid	Date paid
Eaton	Isabella	194382	1,525	6/7/2014
O'neal	Samueal	543981	2,750	6/1/2014
Rent	Gabriel	793281	4,525	5/29/2014
Cather	Kyle	853725	7,000	6/3/2014
Jackson	Michael	438715	3,250	5/27/2014
Laman	Samantha	204573	3,000	5/31/2014
Smith	John	745082	1,000	6/10/2014
Doe	Jane	967034	5,000	6/5/2014
Jones	Katherine	642986	6,500	6/2/2014
Wilson	Owen	363084	2,500	6/8/2014

If there are more than three colors in the data sheet:
Follow the same process, but for each additional sort level added in the Sort dialogue box, select for each color to be displayed on top.

For example, data that contains five different colors would look like this:



Once sorted, the data table will appear like this:

Last name	First name	Banner ID	Amount paid	Date paid
Eaton	Isabella	194382	1,525	6/7/2014
O'neal	Samueal	543981	2,750	6/1/2014
Jackson	Michael	438715	3,250	5/27/2014
Rent	Gabriel	793281	4,525	5/29/2014
Cather	Kyle	853725	7,000	6/3/2014
Laman	Samantha	204573	3,000	5/31/2014
Jones	Katherine	642986	6,500	6/2/2014
Smith	John	745082	1,000	6/10/2014
Doe	Jane	967034	5,000	6/5/2014
Wilson	Owen	363084	2,500	6/8/2014

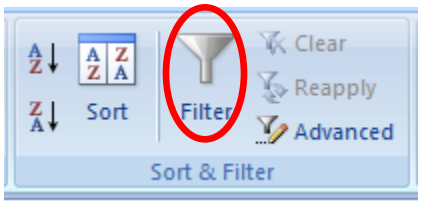
SECTION VII: Filters

Filters allow data to be limited to only display data which meets the criteria of the filter. Data which does not meet the criteria of the filter is hidden.

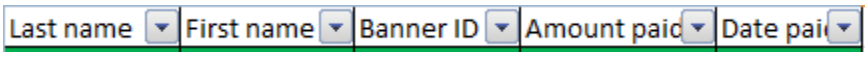
To apply a filter:
1. Select the range of data to filter

2. Highlight the headers of each column of data to filter.
   To highlight all header columns select the entire first row.

3. Select *Filter*.



A dropdown arrow will appear to the right of each column header.

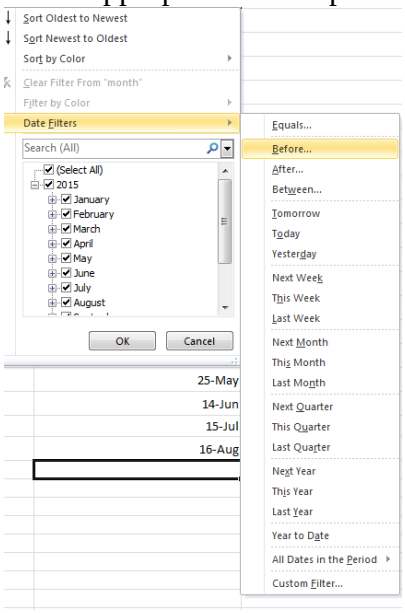


Filters may be applied to each column of data. To apply a filter, open the dropdown menu and select the criteria to display.

For example: to view all items that were paid in May:
1. Select the arrow to open the dropdown menu to filter.
2. Unselect the *Select All* checkbox.
3. Select the checkboxes you wish to display.

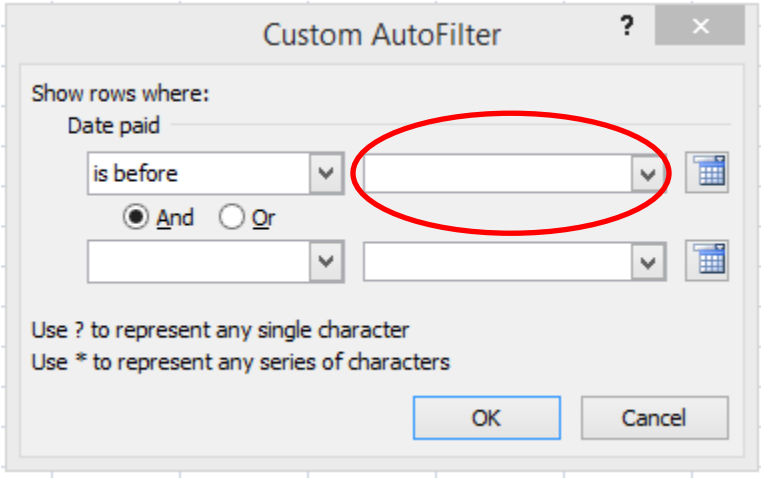
To filter further than the options that are made available:

1. Hover over the *Date Filters* option. (This may also be displayed as column, text or number filters, depending on the contents of the column).
4. Select the appropriate filter option to filter the data.



In this example, we will select *Before*.

A dialog box titled *Custom AutoFilter* will open.



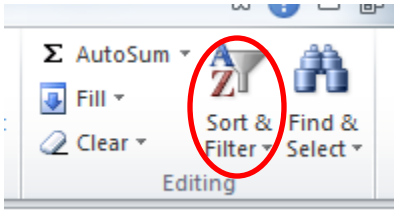
Enter the parameters for the filter in the Custom AutoFilter dialog box.
Select 6/1/2014 from the calendar dropdown menu to the right of the *Is Before* dropdown.
Click *Ok*.

The result will look like this:

Last name	First name	Banner ID	Amount paid	Date paid
Jackson	Michael	438715	3,250	5/27/2014
Rent	Gabriel	793281	4,525	5/29/2014
Laman	Samantha	204573	3,000	5/31/2014

This process may be used to filter any column.

*All sort and filter functions can also be found from the dropdown *Sort & Filter* menu in the *Editing* section



Section VIII: Functions and Formulas

Basic Functions/Formulas

Excel has many different functions and formulas which can be used to manipulate data in a variety of ways, such as sums, subtotals, averages, number counts, maximums, and minimums.

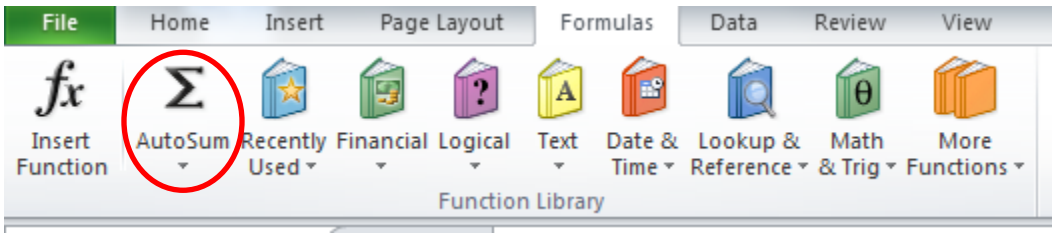
Sums

One of the most commonly used functions of Excel is summation. If you have a data table for a single student with amounts and dates of payment, to find the sum of all payments, you would use the summation function.

Last Name	First Name	Banner ID	Amount Paid	Date Paid
Smith	John	745082	3,000	9/8/2013
			2,500	10/12/2013
			1,500	12/10/2013
			2,000	3/15/2014
			1,000	6/10/2014

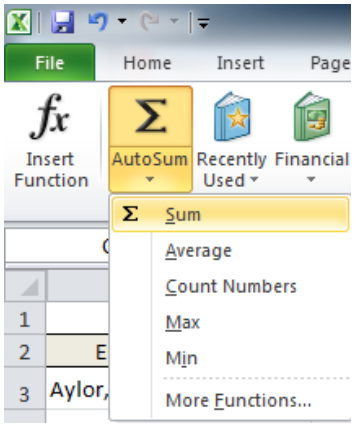
To add numbers in a column:

1. Select the cell directly beneath the last entry.
2. Select *Auto Sum* located on the *Formulas* tab.



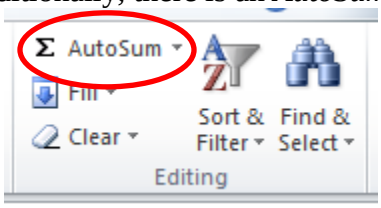
3. Select the *AutoSum* button
4. This will select all items within the column
5. Click the *Enter* key on your keyboard to calculate the sum of all fields.

Other functions are available by selecting the AutoSum dropdown



Other functions include: averaging the numbers in a column, counting the numbers in a column and finding the minimum and/or maximum numbers in the column.

Additionally, there is an *AutoSum* button and dropdown menu also located on the Home toolbar.



Subtotaling

The Subtotal tool is used sum data by group. Subtotaling data eliminates the need to manually insert a row and perform a summation.

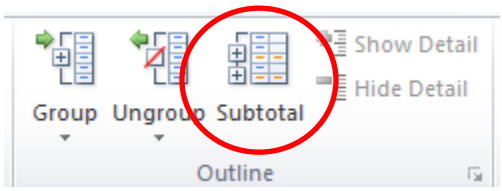
Below is a sample data sheet for which we need to calculate the total amount paid for each semester.

Last Name	First Name	Banner ID	Amount Paid	Semester
Smith	John	745082	$ 3,000.00	Fall
			$ 2,500.00	Fall
			$ 1,500.00	Fall
			$ 2,000.00	Spring
			$ 1,000.00	Spring

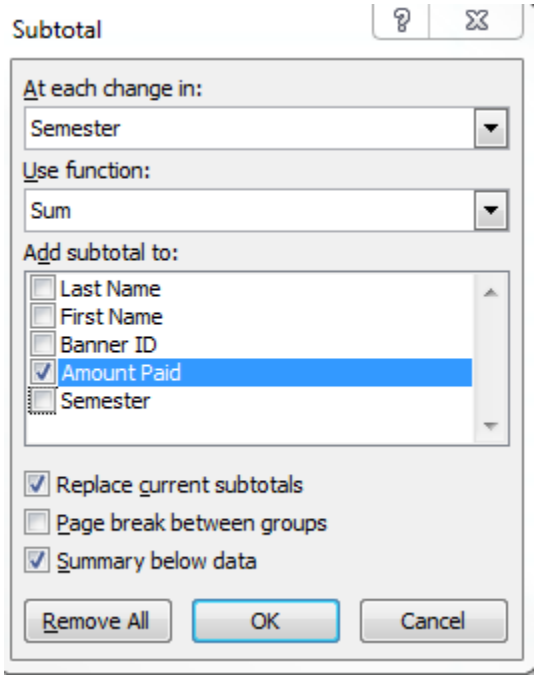
One Level Subtotals

To Subtotal a data sheet:

1. Select the *Subtotal* button located on the Data toolbar.



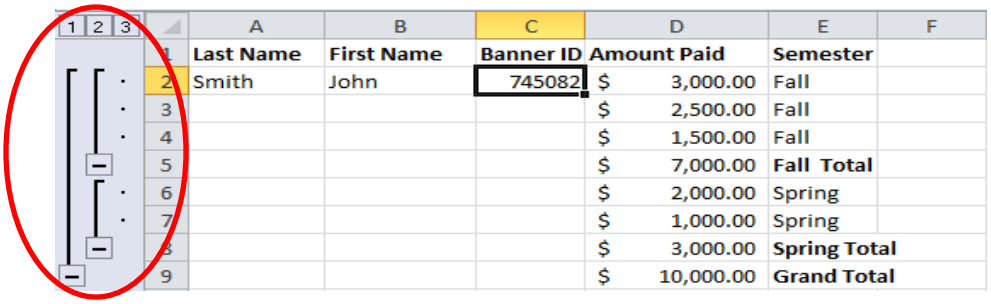
The Subtotal dialogue box will open



To subtotal this data sheet by semester:

1. Choose *Semester* for the *At Each Change* In dropdown.
2. Select *Sum* for the *Use Function* dropdown.
3. Choose *Amount Paid* for the *Add Subtotal To* field.
4. Click *Ok*.

Subtotals will automatically be added to your data.



	A	B	C	D	E	F
1	**Last Name**	**First Name**	**Banner ID**	**Amount Paid**	**Semester**	
2	Smith	John	745082	$ 3,000.00	Fall	
3				$ 2,500.00	Fall	
4				$ 1,500.00	Fall	
5				$ 7,000.00	**Fall Total**	
6				$ 2,000.00	Spring	
7				$ 1,000.00	Spring	
8				$ 3,000.00	**Spring Total**	
9				$ 10,000.00	**Grand Total**	

The subtotal hierarchy located to the left of the spreadsheet can be used to hide some of the data within the spreadsheet.

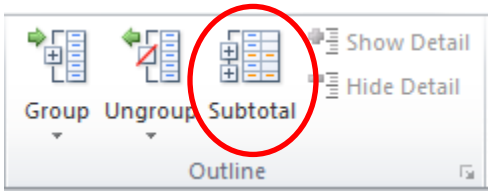
To view only the grand total, select column 1
To view the total for each subsection, select column 2
To view all data, select column 3.

Nested Level Subtotals

Nested Level Subtotals are used to subtotal more than one level of data.
For this example our list of data contains individual payers and semesters

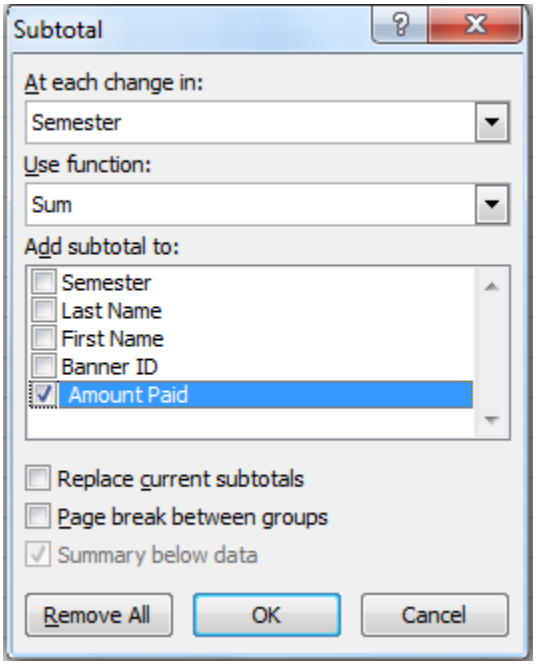
Semester	Last Name	First Name	Banner ID	Amount Paid
Fall 2013	Smith	John	745082	$ 3,000.00
Fall 2013	Smith	John	745082	$ 2,500.00
Fall 2013	Smith	John	745082	$ 1,500.00
Fall 2013	Jones	Katherine	642986	$ 1,500.00
Fall 2013	Jones	Katherine	642986	$ 2,000.00
Fall 2013	Jones	Katherine	642986	$ 3,250.00
Spring 2014	Smith	John	745082	$ 2,000.00
Spring 2014	Smith	John	745082	$ 1,000.00
Spring 2014	Jones	Katherine	642986	$ 3,000.00
Spring 2014	Jones	Katherine	642986	$ 2,750.00
Fall 2014	Smith	John	745082	$ 2,750.00
Fall 2014	Smith	John	745082	$ 3,250.00
Fall 2014	Jones	Katherine	642986	$ 1,750.00
Fall 2014	Jones	Katherine	642986	$ 2,000.00
Spring 2015	Smith	John	745082	$ 1,750.00
Spring 2015	Smith	John	745082	$ 2,250.00
Spring 2015	Smith	John	745082	$ 2,000.00
Spring 2015	Jones	Katherine	642986	$ 2,250.00
Spring 2015	Jones	Katherine	642986	$ 2,500.00
Spring 2015	Jones	Katherine	642986	$ 3,000.00

1. Select any cell within your range of data
2. Select *Subtotal* on the Data tab.



The Subtotal dialogue box will open.

3. For the *At Each Change* in dropdown menu, select *Semester*.
4. Choose to *Use Function*, *Sum*.
5. Choose to *Add Subtotal To*, *Amount Paid*.



6. Click *Ok*.

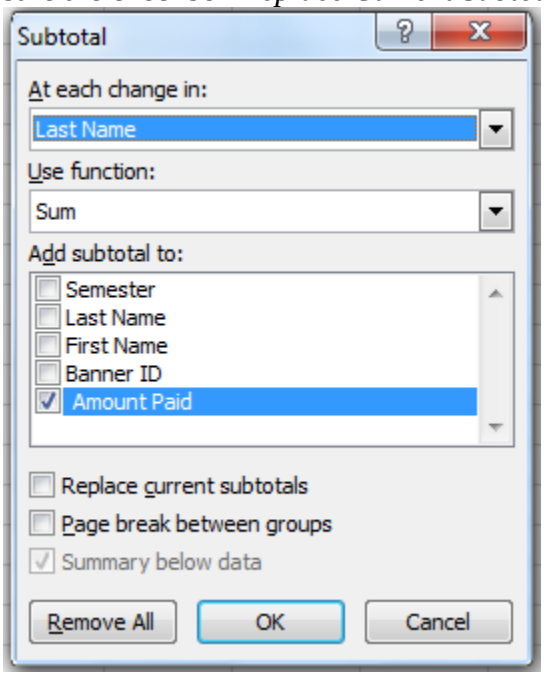
The first level of subtotal will be added to the data.

	A	B	C	D	E
1	**Semester**	**Last Name**	**First Name**	**Banner ID**	**Amount Paid**
2	Fall 2013	Smith	John	745082	$ 3,000.00
3	Fall 2013	Smith	John	745082	$ 2,500.00
4	Fall 2013	Smith	John	745082	$ 1,500.00
5	Fall 2013	Jones	Katherine	642986	$ 1,500.00
6	Fall 2013	Jones	Katherine	642986	$ 2,000.00
7	Fall 2013	Jones	Katherine	642986	$ 3,250.00
8	**Fall 2013 Total**				$ 13,750.00
9	Spring 2014	Smith	John	745082	$ 2,000.00
10	Spring 2014	Smith	John	745082	$ 1,000.00
11	Spring 2014	Jones	Katherine	642986	$ 3,000.00
12	Spring 2014	Jones	Katherine	642986	$ 2,750.00
13	**Spring 2014 Total**				$ 8,750.00
14	Fall 2014	Smith	John	745082	$ 2,750.00
15	Fall 2014	Smith	John	745082	$ 3,250.00
16	Fall 2014	Jones	Katherine	642986	$ 1,750.00
17	Fall 2014	Jones	Katherine	642986	$ 2,000.00
18	**Fall 2014 Total**				$ 9,750.00
19	Spring 2015	Smith	John	745082	$ 1,750.00
20	Spring 2015	Smith	John	745082	$ 2,250.00
21	Spring 2015	Smith	John	745082	$ 2,000.00
22	Spring 2015	Jones	Katherine	642986	$ 2,250.00
23	Spring 2015	Jones	Katherine	642986	$ 2,500.00
24	Spring 2015	Jones	Katherine	642986	$ 3,000.00
25	**Spring 2015 Total**				$ 13,750.00
26	**Grand Total**				$ 46,000.00

To add an additional level of subtotals:

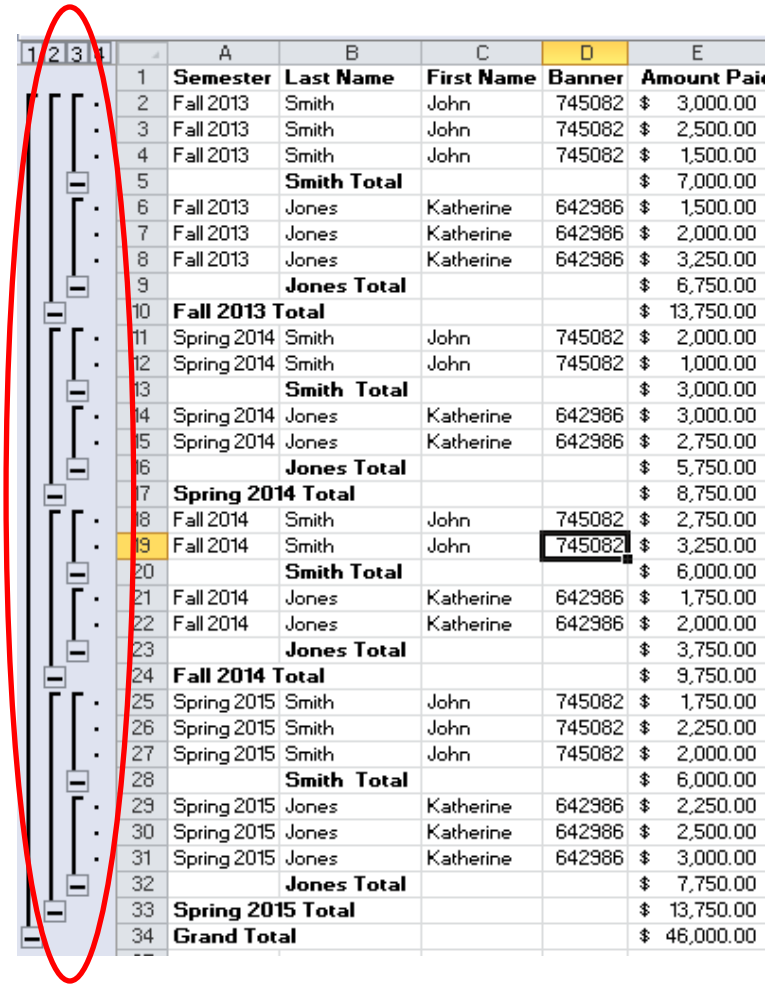
1. Select *Subtotal*
2. For the *At Each Change* in dropdown menu, select *Last Name*.
3. Choose to *Use Function, Sum*.
4. Choose to *Add Subtotal To, Amount Paid*.

5. Ensure the checkbox *Replace Current Subtotals* is unchecked.



6. Click *Ok.*

The second level of subtotals will be added to the data range:



	A	B	C	D	E
1	**Semester**	**Last Name**	**First Name**	**Banner**	**Amount Pai**
2	Fall 2013	Smith	John	745082	$ 3,000.00
3	Fall 2013	Smith	John	745082	$ 2,500.00
4	Fall 2013	Smith	John	745082	$ 1,500.00
5		**Smith Total**			$ 7,000.00
6	Fall 2013	Jones	Katherine	642986	$ 1,500.00
7	Fall 2013	Jones	Katherine	642986	$ 2,000.00
8	Fall 2013	Jones	Katherine	642986	$ 3,250.00
9		**Jones Total**			$ 6,750.00
10	**Fall 2013 Total**				$ 13,750.00
11	Spring 2014	Smith	John	745082	$ 2,000.00
12	Spring 2014	Smith	John	745082	$ 1,000.00
13		**Smith Total**			$ 3,000.00
14	Spring 2014	Jones	Katherine	642986	$ 3,000.00
15	Spring 2014	Jones	Katherine	642986	$ 2,750.00
16		**Jones Total**			$ 5,750.00
17	**Spring 2014 Total**				$ 8,750.00
18	Fall 2014	Smith	John	745082	$ 2,750.00
19	Fall 2014	Smith	John	745082	$ 3,250.00
20		**Smith Total**			$ 6,000.00
21	Fall 2014	Jones	Katherine	642986	$ 1,750.00
22	Fall 2014	Jones	Katherine	642986	$ 2,000.00
23		**Jones Total**			$ 3,750.00
24	**Fall 2014 Total**				$ 9,750.00
25	Spring 2015	Smith	John	745082	$ 1,750.00
26	Spring 2015	Smith	John	745082	$ 2,250.00
27	Spring 2015	Smith	John	745082	$ 2,000.00
28		**Smith Total**			$ 6,000.00
29	Spring 2015	Jones	Katherine	642986	$ 2,250.00
30	Spring 2015	Jones	Katherine	642986	$ 2,500.00
31	Spring 2015	Jones	Katherine	642986	$ 3,000.00
32		**Jones Total**			$ 7,750.00
33	**Spring 2015 Total**				$ 13,750.00
34	**Grand Total**				$ 46,000.00

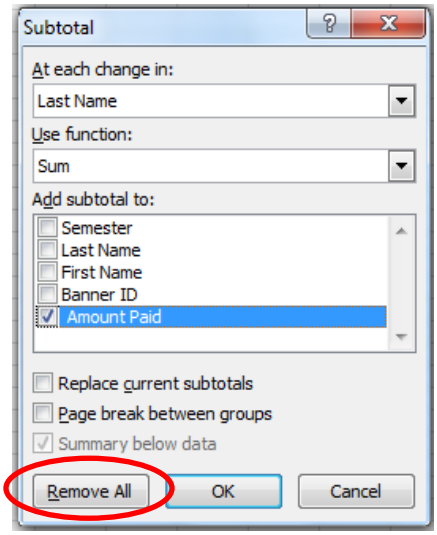
Removing Subtotals

To remove subtotals from a data sheet:

1. Select the *Subtotal* tool

The Subtotal Dialogue box will appear.

2. Select *Remove All* to remove all subtotals.



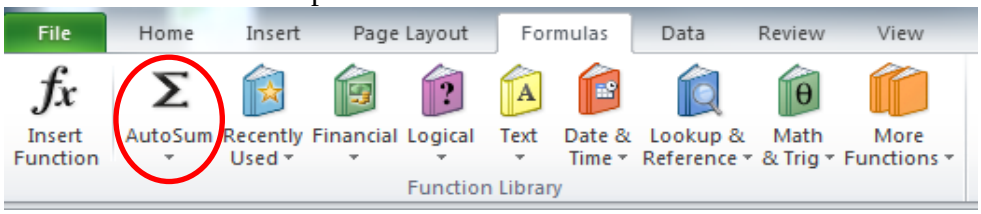
Average

To find the average of a select range of data:

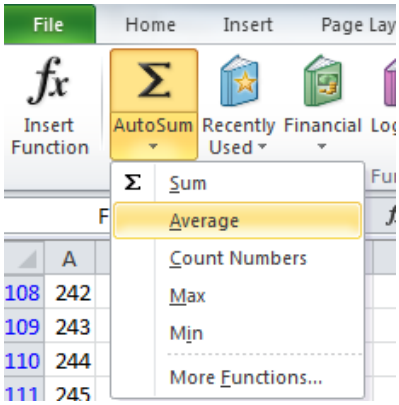
1. Select the cell directly beneath the range of data

Last Name	First Name	Banner ID	Amount Paid	Date Paid
Smith	John	745082	3000	9/8/2013
			2500	10/12/2013
			1500	12/10/2013
			2000	3/15/2015
			1000	6/10/2015

2. Select the *Auto Sum* dropdown on the Formulas tab.



3. Choose *Average* from the Auto Sum dropdown



4. Select the range of cells to calculate
5. Click *Enter* on your keyboard

Last Name	First Name	Banner ID	Amount Paid	Date Paid
Smith	John	745082	$3,000	9/8/2013
			$2,500	10/12/2013
			$1,500	12/10/2013
			$2,000	3/15/2015
			$1,000	6/10/2015
			$2,000	

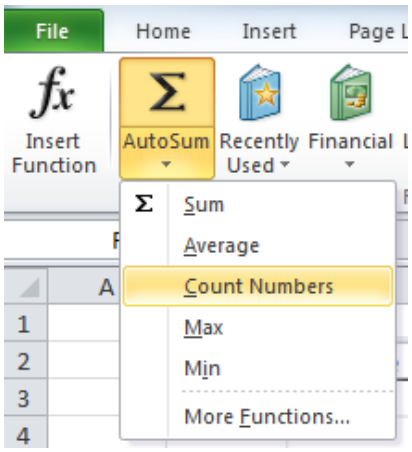
Count Numbers

To count the number of items in a range of data:

1. Select the cell directly beneath the range of data.

Last Name	First Name	Banner ID	Amount Paid	Date Paid
Smith	John	745082	3000	9/8/2013
			2500	10/12/2013
			1500	12/10/2013
			2000	3/15/2015
			1000	6/10/2015

2. Select the *Auto Sum* dropdown.
3. Select *Count Numbers*.



4. Select the range of cells to calculate.
5. Click *Enter* on your keyboard.

Last Name	First Name	Banner ID	Amount Paid	Date Paid
Smith	John	745082	3000	9/8/2013
			2500	10/12/2013
			1500	12/10/2013
			2000	3/15/2015
			1000	6/10/2015
			5	

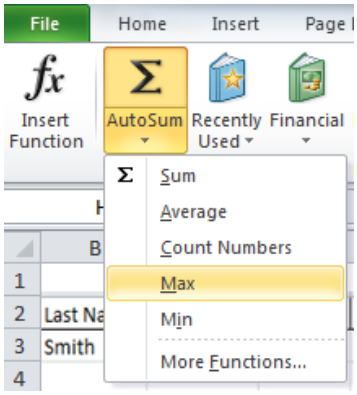
Maximum and Minimum

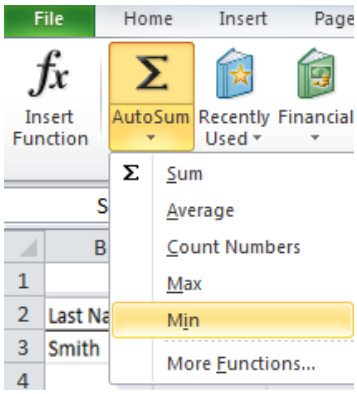
To calculate the Maximum or Minimum for a range of data:

1. Select the cell directly beneath the range of data.

Last Name	First Name	Banner ID	Amount Paid	Date Paid
Smith	John	745082	3000	9/8/2013
			2500	10/12/2013
			1500	12/10/2013
			2000	3/15/2015
			1000	6/10/2015

2. Select the *Auto Sum* dropdown.
3. Select *Max* or *Min* to calculate the maximum or minimum values





6. Select the range of cells to calculate.
7. Click *Enter* on your keyboard to calculate the value.

EXCEL NINJA SHORTCUTS

"Excel Unleashed: Mastering the Power of Spreadsheets"

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+92-333-111-9696

EXCEL SHORTCUT LIST

Formatting Shortcuts

CTRL + 1	Format Box
ALT + E + S + T	Copy Format
ALT + H + 0	Increase Decimal
ALT + H + 9	Decrease Decimal
CTRL + SHIFT + 7	Boxing
ALT + O + C + A	Fit Column Width
ALT + H + O + R	Change Tab Name
ALT + W + F	(Un)Split Panes
ALT + W + S	(Un)freeze windows
SHIFT + CTRL + #	Date Format
SHIFT + CTRL + $	$ Dollar Format
SHIFT + CTRL + %	% Percentage Format
ALT + "="	Sum Function

CTRL Shortcuts

CTRL + A	Select All
CTRL + B	Bold
CTRL + C	Copy
CTRL + D	Fill Down
CTRL + F	Find
CTRL + I	Italic
CTRL + N	New Workbook
CTRL + O	Open
CTRL + P	Print
CTRL + R	Fill Right
CTRL + S	Save Workbook
CTRL + U	Underline
CTRL + V	Paste
CTRL + W	Close Window
CTRL + X	Cut
CTRL + Z	Undo

Function Key Shortcuts

F2	Edit Cells
F4	Anchor Cells
F7	Spell Check
F12	Save As
SHIFT + F2	Insert a Comment
SHIFT + F8	Add to Selection
SHIFT + F10	Right Click
CTRL + F3	Name a Cell
Windows Flag + D	Minimize Programs

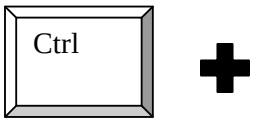
Navigation Shortcuts

Arrows	Move
CTRL + Arrows	Go to End of Continuous Range
SHIFT + Arrows	Select A Cell Range
CTRL + SHIFT + Arrows	Highlight A Continuous Range
ALT + Tab	Switch Programs
CTRL + Pg Up/Down	Switch Worksheets
Enter	Move below
Shift + Enter	Move Up
Home	Move to Beginning of Line
CTRL + Home	Go to Cell A1
ESC	Cancel
Alt + Enter (when in a cell)	Add a Line

Columns & Rows Shortcuts

CTRL + 9	Hide Row
SHIFT + CTRL + 9	Unhide Row
CTRL + 0	Hide Column
SHIFT + CTRL + 0	Unhide Column
SHIFT + Spacebar	Highlight Row
CTRL + Spacebar	Highlight Column
SHIFT + CTRL + Plus sign	Insert Blank Cells
CTRL + Minus Sign	Delete Selected Cells
SHIFT + ALT + Left Arrow	Group Rows/Columns
SHIFT + ALT + Right Arrow	Ungroup Rows/Columns

EXCEL-SPECIFIC KEYBOARD SHORTCUTS



A	Select all
B	Bold
C	Copy
D	Copy Down
E	Go to current errors
F	Find
G	Go to
H	Replace
I	Italic
J	Calc Auto/Manual
K	Insert hyperlink
N	New workbook
O	Open
P	Print
R	Copy right
S	Save workbook
U	Underline
V	Paste
W	Close window
X	Cut
Y	Repeat
Z	Undo last action
5	Strike-through
9	Hide row
0	Hide Column
~	Formulas/values
‘	Copy cell above
`	Show value/formula
;	Enter the date

FUNCTION KEYS

F1	Help menu
F2	Go into cell / go out
F3	Paste name in function
F4	Absolute reference rpt.
F5	Go to
F6	Next pane (if split)
F7	Spell check
F8	Select anchor
F9	Calculate
F10	Activate menu bar
F11	Creates chart sheet
F12	Save as
ALT + F8	MACRO box
ALT + F11	Visual basic editor
SHIFT + F1	Context sensitive help
SHIFT + F11	Insert new sheet
SHIFT + F5	Find Box
SHIFT + F2	Insert / edit comment
SHIFT + F3	Function wizard
CRTL + F3	Define a name

SELECTING CELLS

Select current region around active cell	CTRL+SHIFT + *
Extend selection by one cell	SHIFT+ ARROW
Extend selection to last nonblank cell	CTRL +SHIFT+ ARROW
Extend selection to start of row	SHIFT+HOME
Extend selection to top left	CTRL+SHIFT+HOME
Extend selection to last cell used	CTRL+SHIFT+END
Select the entire column	CTRL+SPACEBAR
Select the entire row	SHIFT + SPACEBAR
Only select active cell	SHIFT +BACKSPACE
Extend selection down one screen	SHIFT+ PAGE DOWN
Extend selection up one screen	SHIFT+ PAGE UP
Turn End mode on or off	END
Extend selection to the last nonblank cell	END or SHIFT+ARROW KEY

ENTERING DATA

Start a new line in the same cell	ALT+ENTER
Delete text to the end of the line	CTRL + DELETE
Edit a cell comment	SHIFT + F2
Fill the selected cell range with entry	CTRL+ENTER
Finish entry and move up in a selection	SHIFT +ENTER
Finish entry and move right in selection	TAB
Finish entry and move left in selection	SHIFT +TAB

FORMULA BAR

Insert the sum formula	ALT + =
Enter the time	CRTL + SHIFT + :
Copy the value from above cell	CRTL + SHIFT + “
Insert function arguments	CTRL + SHIFT + A

FORMATTING

Display the STYLE	ALT + ‘
FORMAT CELLS	CTRL + 1
General number format	CTRL + SHIFT + ~
Comma and 2 decimals	CTRL + SHIFT + !
1-Jan-00 format	CTRL + SHIFT + #
Dollar format	CTRL + SHIFT + $
Percentage format	CTRL + SHIFT + %
Outline border	CTRL + SHIFT + &
Remove outline border	CTRL + SHIFT + _
1/1/1900 0:00 AM format	CTRL + SHIFT + @
#.# # E + 02 format	CTRL + SHIFT + ^
Enter array formula	CTRL + SHIFT + ENTER
Selects current region	CTRL + SHIFT + *

MENUS/ WINDOWS/ DIALOG BOXES

Show a shortcut menu	SHIFT + F10
Show the window icon menu	ALT + SPACEBAR
Switch to the next program	ALT + TAB
Switch to the previous program	ALT+SHIFT+TAB
Move to the next open file	CTRL+TAB or CTRL+F6
Minimize workbook	CTRL + F9
Mazimize workbook	CTRL + F10
Get to next tab in a dialog box	CTRL + TAB or CTRL+ PAGE UP/DN
Get to previous tab in dialog box	CTRL + SHIFT + TAB

SPECIAL KEYS

Select cells referred to by formula	CTRL + [
Select all cells that are directrly or indirectly referred to by formulas	CTRL+ SHIFT+ {
Select only cells with formulas that refer directly to the active cell	CTRL +]
Select only cells with formulas that refer directly or indirectly to the active cell	CTRL + SHIFT+ }
One screen right or left	ATL+PAGE DOWN/UP

Stanford University
Environmental Health and Safety

For more ergonomics information,
go to http://ergostanford.stanford.edu
or call 723 – 0448

More Microsoft shortcuts → http://www.microsoft.com/enable/products/keyboard.aspx

workbook	
Opens a workbook	Ctrl+O
create a new workbook	Ctrl+N
display Print Dialog box	Ctrl+P
display Print Preview	Ctrl+F2
save the workbook	Ctrl+S
close the excel	ctrl+f4
closes the selected workbook	Ctrl+W
minimize a file	ctrl + f9
maxmize / restore workbook	ctrl+f10
delete a sheet	alt+E+L
switch between files	ctrl+Tab
insert a new worksheet	shift+f11
display the save as dialog box	f12
calculate all open workbooks	f9
calculates the active worksheet	shift + f9
Heading freeze / To freeze the first row in Excel	alt+W+F+R
Heading unfreeze To unfreeze the first row in Excel	ALT+W+F+F
To freeze the first column in Excel	ALT + W + F + C
after header & some data in table you want To freeze all rows then select one row through the left side no. point	ALT + W + F + F
hide a Column	ctrl+0
unhide a Column	ctrl+shift+0
hide a row	ctrl+9
unhide a row	ctrl+shift+9
line break	alt+enter
zoom in/out	ctrl+mouse scroll
for chart making	alt+f1
apply a boarder on table	alt+h+b+a
remove boarder on table	alt+h+b+n

editing	
Enters the current time	ctrl+shift+ :
Enters the current date	ctrl+;
copies the selected cells	ctrl+C
copies topmost cell of a range into the cells below	ctrl+D
copies leftmost cell of a range into the cells below	ctrl+R
find	ctrl+F
replace	ctrl+R
edit hyperlink	ctrl+K

create table	ctrl+T
paste	ctrl+v
paste special	ctrl+alt+V
cuts the selected cells	ctrl+X
undoes last action	ctrl+Z
adds/edit comment	shift +f2
generates absolute and relative references OR Repeate the first command	f4
spell check	f7
autosum	alt+=
opens macro dialog box	alt+f8
opens vb editor	alt +f11
opens pivot table wizard	alt +D+P
removes the duplicate	alt + A+M
text to column wizard	alt+A+E
enters a new line	alt + enter
data validation	alt+D+L
edit active cell	f2
clear all cell contents	Delete
redo	ctrl+Y
clear slicer filter	alt+C
align centre	alt+H+A+C
align left	alt+H+A+L
align right	alt+H+A+R
Bold	ctrl+B
italics	ctr+i
underline	ctrl+U
to insert cell, column,row	ctrl+shift+(+)
Strikethrough	ctrl+5
Flash Fill	ctrl+E

Tab	left cell To Right Cell
Shift + Tab	Right Cell To Left Cell
Ctrl+End	moves to last used cell
ctrl+Home	moves to the first used cell
Ctrl+Arrow	moves to the edge of the current data region
Ctrl+G or F5	Go to Dialog Box
move sheet in a workbook	
Ctrl+Page Up	moves to the previous sheet in a workbook
Ctrl+ Page Down	moves to the next sheet in a workbook
moves screen to left / right in a worksheet	

Alt+Page Up	moves one screen to the left in a worksheet
Alt+Page Down	moves one screen to the Right in a worksheet

Selection	
Ctrl+A	select the entire worksheet
1-by-1 selection	Shift +Arrow
for overall selection	ctrl+shit +arrow
select the rest of a column	ctrl+shit +Downward arrow
select the rest of a row	ctrl+shit + right arrow
Ctrl+spacebar	select the entire column
Shift+spacebar	select the entire row
F8	Toggles Extend mode

General	
Display or hide the ribbon	ctrl+f1
expand / collapse of the formula bar	ctrl+shift+U
applies / removes the filter	ctrl+shift+L
advanced filter	alt+A+Q
excel options	alt+T+Q
evaluate formula box	Alt+M+V
name manager box	ctrl+f3
insert function dialogue box	shift+f3

delete entire selected row/colum
first select entire row/column by shift+space / ctrl+space
then use ctrl+(-)

to auto fit sheet colums/rows
select with ctrl+a
then use alt + h+ o +i
or ALT+O+C+A

For Excel templates
Microsoft Template
vertex42.com
templatelab.com
spreadsheet123.com
smartsheet.com

BASIC KEYS

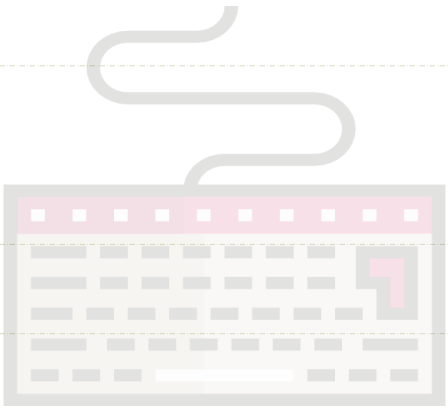
Ctrl + Up Arrow	move to the top end
Ctrl + Down Arrow	move to the down end
Ctrl + Right Arrow	move to the right end
Ctrl + Left Arrow	move to the left end
Ctrl + C	copy
Ctrl + V	paste
Ctrl + X	cut
Ctrl + S	save
Ctrl + P	print
Ctrl + F4	save as
Ctrl + Z	undo last action
Ctrl + Y	redo last action
Ctrl + A	select all
Ctrl + Spacebar	select entire column
Shift + Spacebar	select entire row
Delete	delete
F2	edit cell
Esc	close edit mode
F1	help
Menu Option	right click menu

FORMATTING KEYS

Ctrl + B	bold
Ctrl + I	italic
Ctrl + U	underline
Ctrl + !	open format menu
Ctrl + Shift + @	format as time value
Ctrl + Shift + #	format as date value
Ctrl + Shift + $	format as currency
Ctrl + Shift + %	format as percentage value
Alt H O I / A	adjust cell width to content
Alt H B A	apply border
Alt H F C	change font color
Alt H H	change cell color
Alt H A C	align text to center
Alt H M C	merge cell
Alt H W	wrap text
Alt H F F	change font style
Alt H F S	change font size
Alt H L N	add conditional formatting
Alt H T	format as table
Alt H J	style cell

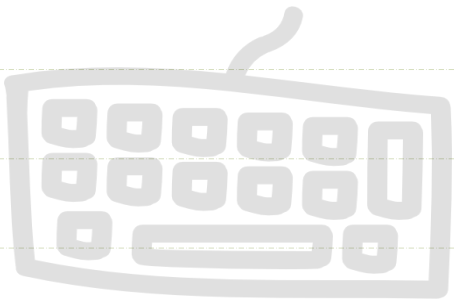
INSERT & LAYOUT KEYS

Alt N V	insert pivot table
Alt N T	insert table
Alt N P	insert picture
Alt N S H	insert shape
Alt N S C	insert charts
Alt N I	insert hyperlink
Alt N X	insert text box
Alt N J	insert object
Alt N U	insert symbol
Alt N H	insert header & footer
Alt N V	insert pivot table
Alt W V F	hide/unhide formula bar
Alt W V H	hide/unhide heading
Alt W V G	hide/unhide gridlines
Alt W Q C	change zoom
Alt W F F	freeze pane
Alt W F I	page break view
Alt W F C	custom view
Alt W F P	page layout view
Alt W A	arrange windows

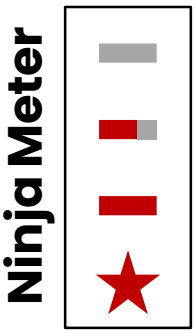


INSERT & LAYOUT KEYS

Shift + F3	insert function
Alt M R	recently used functions
Alt M I	financial functions
Alt M L	logical functions
Alt M T	text functions
Alt M E	date & time functions
Alt M O	lookup functions
Alt M G	math & trig functions
Alt M Q	more functions
Alt + =	auto sum
Alt M N	name manager
Alt D F F	add filters
Alt A V V	insert data validation
Alt A M	remove duplicates
Alt A R A	refresh all
Alt A E	text to column
Alt A G	group rows & columns
Alt A U	ungroup rows & columns
Alt A B	add sub total
Alt A S S	sort



How to use this book



Don't bother. You either know it or don't need to know

Useful if you're spending 2+ hours on excel

You're losing time if you don't know this

Let's see some magic

The **Ninja Meter** indicates the importance of the shortcuts based on the use case. This is based on our experience with consulting and interacting with 20,000+ students in the classroom sessions

Note on Mac Shortcuts

Shift	⇧	Command	⌘
Alt	⌥	Mouse Click	
Function	Fn	Control	^

Excel Ninja Shortcuts

File	Win	Mac
Create new workbook	Ctrl N	⌘ N
Open workbook	Ctrl O	⌘ O
Save workbook	Ctrl S	⌘ S
Save as	F12	⌘ ⇧ S
Print file	Ctrl P	⌘ P
Open print preview window	Ctrl F2	
Close current window	Ctrl W	⌘ W
Close Excel	Alt F4	⌘ Q

Ribbon	Win	Mac
Expand or collapse ribbon	Ctrl F1	⌘ ⌥ R
Activate shortcut key tips	Alt	
Move to next ribbon control	Tab	Tab
Move to previous button	Shift Tab	⇧ Tab
Accept and Confirm	Enter	Return
Help for button upon mouse over	F1	

"A man only learns in two ways, one by reading, and the other by association with smarter people."

— Will Rogers

Active Cell	Win	Mac
Select active cell only	Shift + Backspace ←	⇧ + Delete
Show active cell on worksheet	Ctrl + Backspace ←	⌘ + Delete
Move active cell clockwise in selection	Ctrl + .	^ + .
Move active cell down in selection	Enter	Return
Move active cell up in selection	Shift + Enter	⇧ + Return
Move active cell right in a selection Tab	Tab	Tab
Move active cell left in a selection	Shift + Tab	⇧ + Tab

"Education is the most powerful weapon which you can use to change the world."

— Nelson Mandela

General	Win	Mac
Open help	F1	⌘ /
Undo last action	Ctrl Z	⌘ Z
Redo last action	Ctrl Y	⌘ Y
Copy selected cells	Ctrl C	⌘ C
Repeat last action	F4	⌘ Y
Cut selected cells	Ctrl X	⌘ X
Paste content from clipboard	Ctrl V	⌘ V
Display Paste Special	Alt E S	^ ⌘ V
Display Find and Replace	Ctrl F	⌘ F
Find with replace selected cells	Ctrl H	^ H
Find previous match	Ctrl Shift F4	⌘ ⇧ G
Find next match	Shift F4	⌘ G
Create embedded chart	Alt F1	Fn ⌥ F1
Create chart in new worksheet	F11	Fn F11
Toggle Autofilter	Ctrl Shift L	⌘ ⇧ F

"Education is the ability to listen to almost anything without losing your temper or your self-confidence."

— Robert Frost

General Continued

	Win	Mac
Activate filter dropdown	Alt ↓	⌘ Shift F
Insert table	Ctrl T	^ T
Select table row	Shift Space	⇧ Space
Select table column	Ctrl Space	^ Space
Select table	Ctrl A	⌘ A

Selection

Select entire row	Shift Space	⇧ Space
Select entire column	Ctrl Space	^ Space
Select entire worksheet	Ctrl A	⌘ A
Add adjacent cells to selection	Shift	⇧
Add non-adjacent cells to selection	Ctrl	⌘
Same selection in next column		⌥ Tab
Same selection in previous column		⌥ ⇧ Tab
Toggle add to selection mode	Shift F8	Fn ⇧ F8
Cancel selection	Esc	Esc

"Intelligence plus character-that is the goal of true education."

— Martin Luther King Jr.

Navigation	Win	Mac
Move one cell right	→	→
Move one cell left	←	←
Move one cell up	↑	↑
Move one cell down	↓	↓
Move one screen right	Alt PgDn	Fn ⌥ ↓
Move one screen left	Alt PgUp	Fn ⌥ ↑
Move one screen up	PgUp	Fn ↑
Move one screen down	PgDn	Fn ↓
Move to right edge of data region	Ctrl →	
Move to left edge of data region	Ctrl ←	
Move to top edge of data region	Ctrl ↑	
Move to bottom edge of data region	Ctrl ↓	
Move to beginning of row	Home	Fn ←
Move to last cell in worksheet	Ctrl End	Fn ^ →
Move to first cell in worksheet	Ctrl Home	Fn ^ ←

"Study without desire spoils the memory, and it retains nothing that it takes in."

— Leonardo da Vinci

Navigation Continued

	Win	Mac
Turn End mode on	End	Fn →

Number Formatting

	Win	Mac
Apply general format	Ctrl Shift ~	^ ⇧ ~
Apply currency format	Ctrl Shift $	^ ⇧ $
Apply percentage format	Ctrl Shift %	^ ⇧ %
Apply scientific format	Ctrl Shift ^	^ ⇧ ^
Apply date format	Ctrl Shift #	^ ⇧ #
Apply time format	Ctrl Shift @	^ ⇧ @
Apply number format	Ctrl Shift !	^ ⇧ !

"Anyone who stops learning is old, whether at twenty or eighty. Anyone who keeps learning stays young."

— Henry Ford

Extend Selection

	Win	Mac
Extend selection by one cell right	Shift →	⇧ →
Extend selection by one cell left	Shift ←	⇧ ←
Extend selection by one cell up	Shift ↑	⇧ ↑
Extend selection by one cell down	Shift ↓	⇧ ↓
Extend last cell right	Ctrl Shift →	^ ⇧ →
Extend last cell left	Ctrl Shift ←	^ ⇧ ←
Extend last cell up	Ctrl Shift ↑	^ ⇧ ↑
Extend last cell down	Ctrl Shift ↓	^ ⇧ ↓
Extend selection up one screen	Shift PgUp	Fn ⇧ ↑
Extend selection down one screen	Shift PgDn	Fn ⇧ ↓
Extend selection right one screen	Alt Shift PgDn	Fn ⇧ ⌘ ↓
Extend selection left one screen	Alt Shift PgUp	Fn ⇧ ⌘ ↑
Extend selection to start of row	Shift Home	Fn ⇧ ←
Extend selection to first cell	Ctrl Shift Home	Fn ^ ⇧ ←
★ Extend selection to last used cell	Ctrl Shift End	Fn ^ ⇧ →

"All I have learned, I learned from books."

— Abraham Lincoln

Extend Selection Continued

	Win	Mac
Toggle extend selection mode	F8	Fn F8

Select Special

	Win	Mac
★ Display ‘Go To’ dialog box	Ctrl G	^ G
Select row difference	Ctrl \	
Select column difference	Ctrl Shift |	
Select cells with comments	Ctrl Shift O	Fn ^ ⇧ O
Select current region	Ctrl A	⌘ A
Select current array	Ctrl /	^ /
Select direct precedents	Ctrl [	^ [
Select all precedents	Ctrl Shift [	^ ⇧ {
Select direct dependents	Ctrl]	^]
Select all dependents	Ctrl Shift]	^ ⇧ }
★ Select visible cells only	Alt ;	⌘ ⇧ Z

“Play is the highest form of research.”

— Albert Einstein

Cell Edit Mode	Win	Mac
Edit the active cell	F2	^ U
Insert or edit comment	Shift F2	Fn ⇧ F2
Cancel entry	Esc	Esc
Select one character right	Shift →	⇧ →
Select one character left	Shift ←	⇧ ←
Move one word right	Ctrl →	^ →
Move one word left	Ctrl ←	^ ←
Select one word right	Ctrl Shift →	^ ⇧ →
Select one word left	Ctrl Shift ←	^ ⇧ ←
Select to beginning of cell	Shift Home	Fn ⇧ ←
Select to end of cell	Shift End	Fn ⇧ →
Delete character to the left of cursor	Backspace ←	Delete
Delete character right	Delete	Fn Delete
★ New line in cell	Alt Enter	^ ⌥ Return

"Education is no substitute for intelligence."

— Frank Herbert

Entering Data	Win	Mac
Enter and move down	Enter	Return
Enter and move up	Shift Enter	⇧ Return
Enter and move right	Tab	Tab
Enter and move left	Shift Tab	⇧ Tab
★ Enter same data in multiple cells	Ctrl Enter	^ Return
★ Insert current date	Ctrl ;	^ ;
Insert current time	Ctrl Shift :	^ ⇧ :
Fill down from cell above	Ctrl D	^ D
Fill right from cell left	Ctrl R	^ R
Copy formula from cell above	Ctrl '	^ '
Copy value from cell above	Ctrl Shift "	^ ⇧ "
Add hyperlink	Ctrl K	⌘ K
★ Display Auto Complete list	Alt ↓	⌥ ↓
★ Flash fill	Ctrl E	

"Risk comes from not knowing what you're doing"

— Warren Buffett

Formatting

	Win	Mac
★ Format (almost) anything	Ctrl 1	⌘ 1
Display Format cells font tab	Ctrl Shift F	^ ⇧ F
Apply or remove bold formatting	Ctrl B	⌘ B
Apply or remove italic formatting	Ctrl I	⌘ I
Apply or remove underscoring	Ctrl U	⌘ U
Toggle strikethrough formatting	Ctrl S	⌘ ⇧ X
Toggle shadow font style		⌘ ⇧ W
Toggle outline font style		⌘ ⇧ D
Align center	Alt H A C	⌘ E
Align left	Alt H A L	⌘ L
Align Right	Alt H A R	⌘ R
Indent	Alt H 6	^ ⌥ Tab
Remove indent	Alt H 5	^ ⌥ ⇧ Tab
Increase font size one step	Alt H F G	⌘ ⇧ >
Decrease font size one step	Alt H F K	⌘ ⇧ <

"Educated men are so impressive!"

— William Shakespeare, Romeo and Juliet

Borders

	Win	Mac
Add border outline	Ctrl Shift &	⌘ ⌥ 0
Add or remove border right	Alt R	⌘ ⌥ →
Add or remove border left	Alt L	⌘ ⌥ ←
Add or remove border top	Alt T	⌘ ⌥ ↑
Add or remove border bottom	Alt B	⌘ ⌥ ↓
Add or remove border upward diagonal	Alt D	
Add or remove border horizontal interior	Alt V	
Remove borders	Ctrl Shift _	⌘ ⌥ _

Dialog Boxes

	Win	Mac
Move to next control	Tab	Tab
Cancel and close the dialog box Esc	Esc	Esc
Toggle between open books	Ctrl Tab	^ Tab
Move to previous tab	Ctrl Shift Tab	^ ⇧ Tab
Accept and apply	Enter	Return
Check and uncheck box	Space	Space

"I never learn anything talking. I only learn things when I ask questions."

— Lou Holtz

Formulas	Win	Mac
Toggle absolute & relative references	F4	⌘ T
Open Insert function dialog	Shift F3	Fn ⇧ F3
Autosum selected cells	Alt =	⌘ ⇧ T
Toggle formulas on and off	Ctrl `	Fn `
Enter array formula	Ctrl Shift Enter	^ ⇧ Return
Calculate worksheets	F9	Fn F9
Calculate active worksheet	Shift F9	Fn ⇧ F9
Force calculate all worksheets	Ctrl Alt F9	
Evaluate part of a formula	F9	Fn F9
Expand/collapse formula bar	Ctrl Shift U	^ ⇧ U
Display function arguments dialog box	Ctrl A	^ A
Define Name	Ctrl F3	Fn ^ F3
Define names from labels	Ctrl Shift F3	Fn ^ Shift F3
Paste name into formula	F3	

"We learn from failure, not from success!"

— Bram Stoker, Dracula

Pivot Tables

	Win	Mac
Select entire pivot table	Ctrl A	⌘ A
Toggle pivot table field checkbox	Space	Space
Group pivot table items	Alt Shift →	⌘ ⇧ K
Ungroup pivot table items	Alt Shift ←	⌘ ⇧ J
Hide pivot table item	Ctrl -	Ctrl -
Create pivot chart on same worksheet	Alt F1	
Create pivot chart on new worksheet	F11	Fn F11
Open pivot table wizard	Alt D P	⌘ ⌥ P
Insert Calculated field	Ctrl Shift +	

"Education is the kindling of a flame, not the filling of a vessel."

— *Socrates*

Grid Operations	Win	Mac
Display Insert Dialog box	Ctrl Shift +	Ctrl Shift +
Insert rows	Ctrl Shift +	Ctrl Shift +
Insert columns	Ctrl Shift +	Ctrl Shift +
Display Delete dialog box	Ctrl -	^ -
Delete rows	Ctrl -	^ -
Delete columns	Ctrl -	^ -
Delete cells	Ctrl -	^ -
Delete contents of selected cells	Delete	Fn Delete
Hide columns	Ctrl 0	^ 0
Hide rows	Ctrl 9	^ 9
Unhide rows	Ctrl Shift 9	^ ⇧ 9
Unhide columns	Ctrl Shift 0	^ ⇧ 0
Group rows or columns	Alt Shift →	⌘ ⇧ K
Ungroup rows or columns	Alt Shift ←	⌘ ⇧ J
Open Group Dialog Box	Alt Shift →	⌘ ⇧ K

"A man only learns in two ways, one by reading, and the other by association with smarter people."

— Will Rogers

Grid Operations Continued

	Win	Mac
Open Ungroup Dialog Box	Alt Shift ←	⌘ ⇧ J
Hide or show outline symbols	Ctrl 8	^ 8

Workbook

	Win	Mac
Insert new worksheet	Shift F11	Fn ⇧ F11
Go to next worksheet	Ctrl PgDn	Fn ^ ↓
Go to previous worksheet	Ctrl PgUp	Fn ^ ↑
Move to next pane	F6	
Move to previous pane	Shift F6	
Go to next workbook	Ctrl Tab	^ Tab
Go to previous workbook	Ctrl Shift Tab	^ ⇧ Tab
Minimize current workbook window	Ctrl F9	⌘ M
★ Maximize current workbook window	Ctrl F10	Fn ^ F10
Select adjacent worksheets	Shift + click	⇧ + click
Select non-adjacent worksheets	Ctrl + click	⌘ + click
Toggle scroll lock	ScrLk	Fn ⇧ F14

"In learning you will teach, and in teaching you will learn."

— Phil Collins

Other	Win	Mac
Open Spelling dialog box	F7	Fn F7
Open Thesaurus dialog box	Shift F7	Fn ⇧ F7
Open Macro dialog box	Alt F8	Fn ⌥ F8
Open VBA Editor	Alt F11	Fn ⌥ F11
Duplicate object	Ctrl D	⌘ D
Snap to grid	Alt	⌘
Hide or show objects	Ctrl 6	^ 6
Display Modify Cell Style	Alt '	⌘ ⇧ L
★ Display shortcut menu	Shift F10	Fn ⇧ F10
Display control menu	Alt Space	

"We learn to do by doing."

— Spencer W. Kimball

EXCEL FORMULAS

Basic Excel Formulas

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EXCEL FORMULAS

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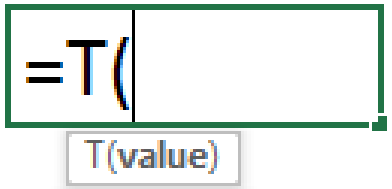
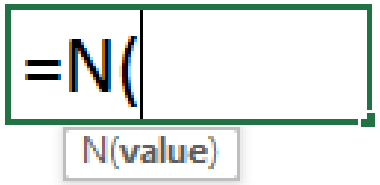
01 | Data Cleaning formulas

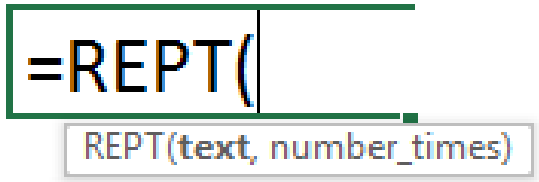
Text Formulas – T(), N(), and REPT()



- If value is or refers to text, T() returns that value. If value does not refer to text, T() returns "" (empty text).

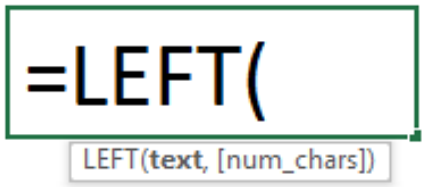


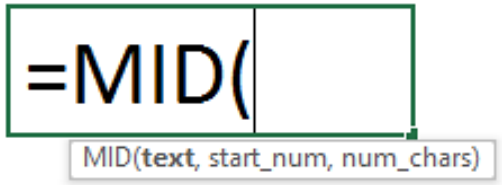
- If value is or refers to number, N() returns that value. For text, it yields zero.
- Used to leave in-cell comments. E.g., =SUM(B1:B2) + N("This is my comment – Hello World")



- Repeats a string / character specified no. of times
- E.g., =REPT("Z",3) will yield ZZZ

Text Formulas – LEFT(), RIGHT(), and MID()

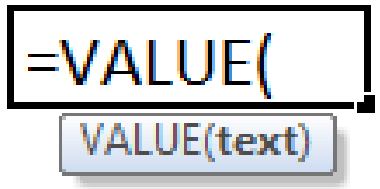




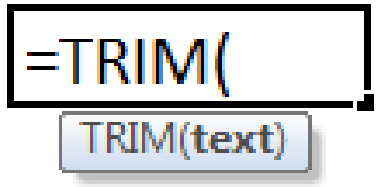
- Extract specified no. of characters from left, right or mid
- IMPORTANT – if extracted data is a number, it will be stored as text. Use VALUE()

	A	B	C
1	AJCPP1312N	AJ	=LEFT(A1,2)
2	AJCPP1312N	2N	=RIGHT(A2,2)
3	AJCPP1312N	P	=MID(A3,4,1)

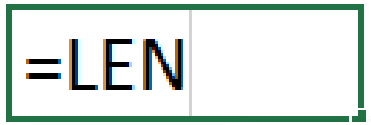
Text Formulas –VALUE(), TRIM() and LEN()



- Converts “a number stored as text” to a number
- “a number stored as text” is recognized as 0 for computations



- Removes excess spaces from text. Removes all leading & trailing spaces. However, multiple spaces inside the sentences are replaced with a single space.
- E.g., Converts “ **HSBC Inc.** ” **TO** “**HSBC Inc.**”



- Returns the number of characters in a text string. Counts spaces too. E.g., = LEN(“AK 47“) = 5

Text Formulas – SEARCH() vs. FIND()

=SEARCH(

SEARCH(**find_text**, within_text, [start_num])

- Case Sensitive? – No
- Can use wild characters in search terms? - Yes

=FIND(

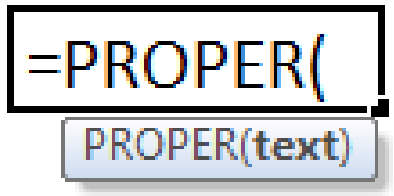
FIND(**find_text**, within_text, [start_num])

- Case Sensitive? – Yes
- Can use wild characters in search terms? - No

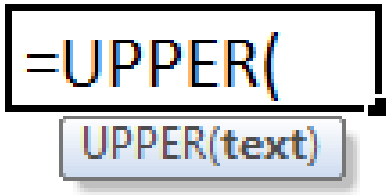
Gives you the starting position of the criteria

	A	B	C
1	user@yodalearning.com	6	=SEARCH("YO*",A1)
2	123456.....21		

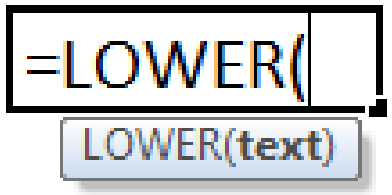
Text Formulas – PROPER(), UPPER() & LOWER()



- Capitalizes the **first letter in each word** of a text value
- E.g., Converts **“the man eats”** or **“THE MAN EATS”** TO **“The Man Eats”**

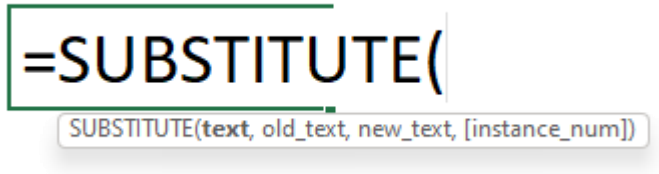


- Converts text to uppercase
- E.g., Converts **“the man eats”** or **“The Man Eats”** TO **“THE MAN EATS”**



- Converts text to lowercase
- E.g., Converts **“The Man Eats”** or **“THE MAN EATS”** TO **“the man eats”**

Text Formulas – SUBSTITUTE()



- Formula version of – Find & Replace (Ctrl H)
  - *old_text – what will be replaced*
  - *new_text – new replacement*

Joining data strings using CONCATENATE, &

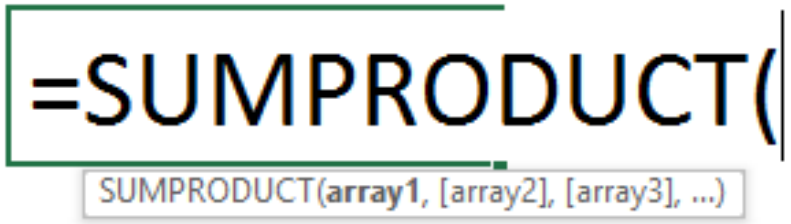
	A	B	C	D	E
1					
2	AK7	2332	AK7-2332	=A2&"-"&B2	
3					
4	AK7	2332	AK7-2332	=CONCATENATE(A4,"-",B4)	

Note:

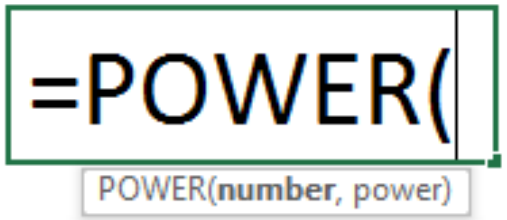
- Both of the above approaches yield the SAME output
- Any external text, number, symbol must be enclosed in a pair of double quotations. E.g., " "
- =TEXT() may be used if combining Dates. E.g., ="Today's date is " **&** TEXT(A2,"dd-mmm-yy")
- Further reading – CONCAT, TEXTJOIN

02 | Essential math formulas

For Weighted Average & Compounding/Discounting

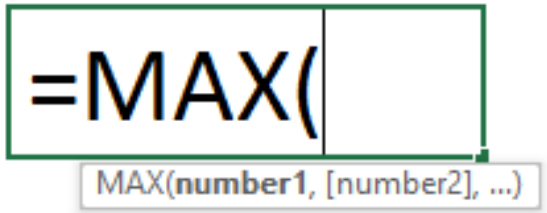


- Multiplies corresponding cells in **two or more ranges** and returns the sum of those products.
  E.g., =SUMPRODUCT(A1:A2,B1:B2) = (A1*B1) + (A2*B2)
- The array arguments must have the **same dimensions.**
  E.g., =SUMPRODUCT(A1:A2,B1:B3) is invalid
- Used with =SUM() for computing **weighted average**

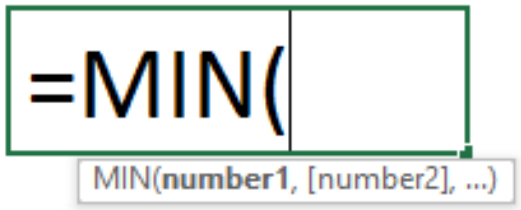


- Used in Financial Modeling – discounting cash flows, compounding
- Caret sign (^) is a perfect substitute. E.g., 25 =POWER(5,2) and is same as =5^2

Used in Financial Modeling and Tax Computation

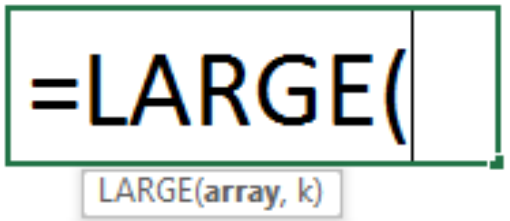


- Used in **Tax Computations & Financial Models to prevent choosing of negative numbers** for subsequent calculations.
- E.g., =MAX(0,A1) chooses 0 or value in cell A1, whichever is higher
- E.g., Penalty for late deposit = higher of 2% of dues or Rs.100

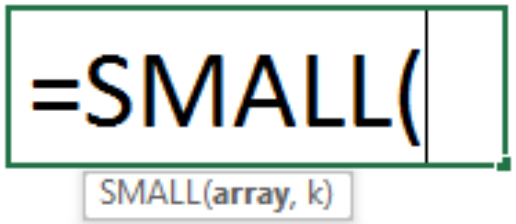


- Used in logics such as “lower of the two numbers” in the area of **Tax Computations,** specific areas of **Financial Engineering**
- =MIN(A1:A5) is same as =SMALL(A1:A5,1)

Used in pricing discovery processes

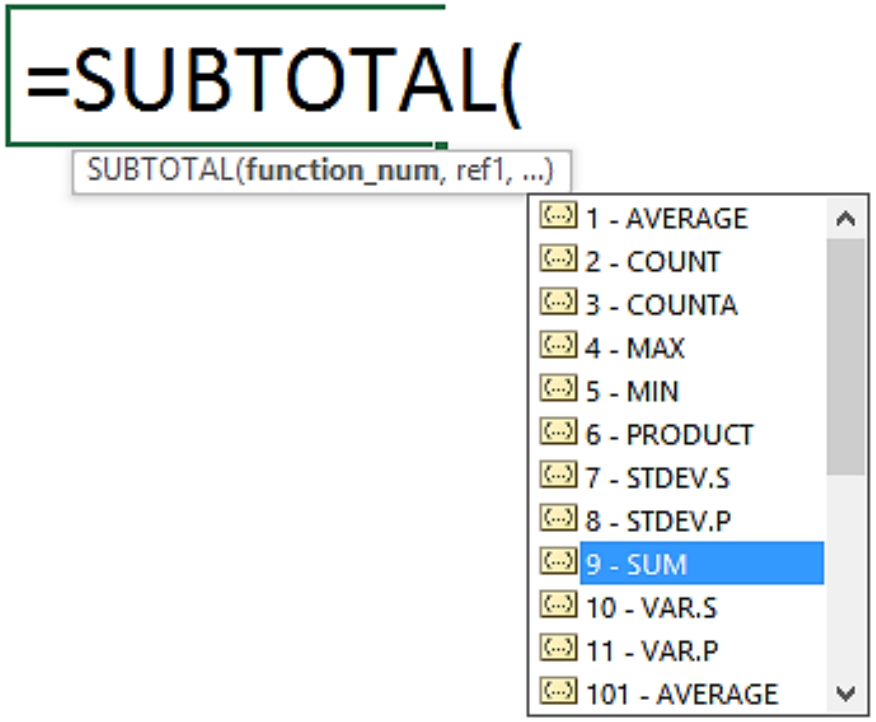


- **Auction** such as highest bid value, second highest bid value and so on.
- E.g., H2 will be =LARGE(A1:A5,2)



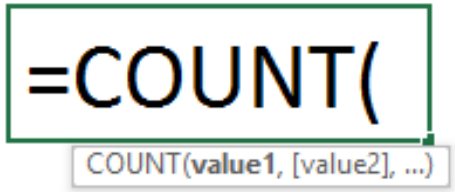
- **Vendor evaluation** such as lowest bid value L1, second lowest bid value L2 and so on.
- E.g., L2 will be =SMALL(A1:A5,2)

Using =SUBTOTAL() for calculations w. Filtered list.

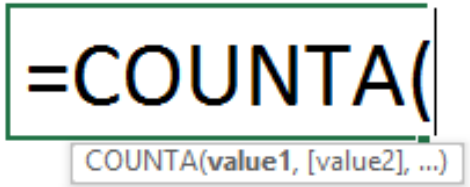


- Avoid using SUM to calculate total on a filtered dataset. Instead, use SUBTOTAL(). It ignores values in hidden rows (filtered out), regardless of *function_num*. E.g., 1 for AVERAGE, 9 for SUM
- Shortcut for SUBTOTAL() formula for autosum in filtered lists is **ALT =**
- **Pro tip:** In tables with Filter applied, SUBOTAL() with 109 i.e., SUM will ignore values in the manually hidden rows whereas SUBOTAL() with 9 will not

For Counting



Counts the number of cells which have numeric value

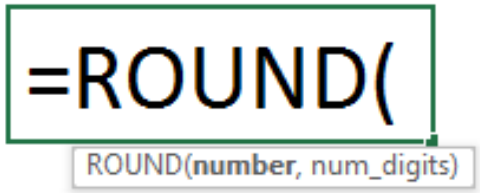


Counts the number of cells which IS NOT a blank, i.e., numbers, alphabets, alphanumeric, space)

Counts the number of cells which IS a blank

Note: COUNTIFS() will be discussed later in the book. COUNTIFS() counts those cells that meet a certain criteria.

For rounding numbers (1/2)



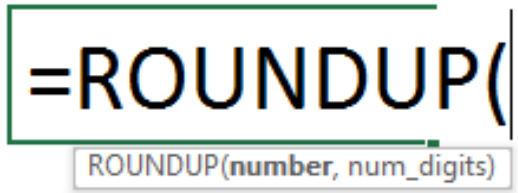
- "***num_digits***" signifies "number of decimal digits".
- E.g., For the starting number 52.233 – "2" implies 52.23, "1" implies 52.20, and 0 implies 52.00

- **=ROUND(A1/50, 0) * 50 - will give you** nearest 50. E.g., =ROUND(A1/10,0)*10 = 5340.0 where cell A1 = 5344.2

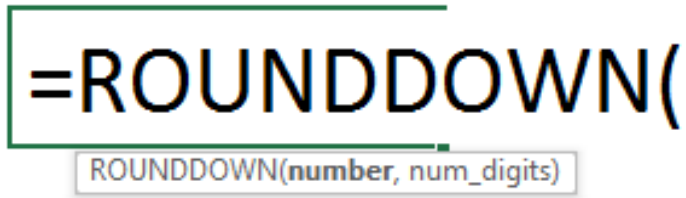
- The same technique can be used with ROUNDUP & ROUNDDOWN

... cont'd

For rounding numbers (2/2)



- E.g., Cell A1 = 5342.2
- =ROUNDUP(A1/10,0)*10 = 5350.0



- E.g., Cell A1 = 5349.2
- =ROUNDDOWN(A1/10,0)*10 = 5340.0

Note: MROUND() do not work with +/– nos. simultaneously. It does not have the option to choose between round up and round down.

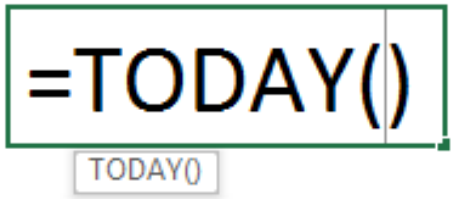
PMT – Used to find the EMI amount of a loan

	A	B
1		
2	Loan Amt. Rs.	420,682.2
3	Interest % p.a.	13.0%
4	Duration (Yrs.)	2.0
5		
6		
7	**EMI (Rs.) using PMT**	(20,000)
8		

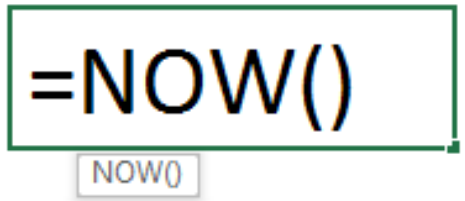
=PMT(B3/12,B4*12,B2)

03 | Date formulas

Date Formulas – TODAY() and NOW()



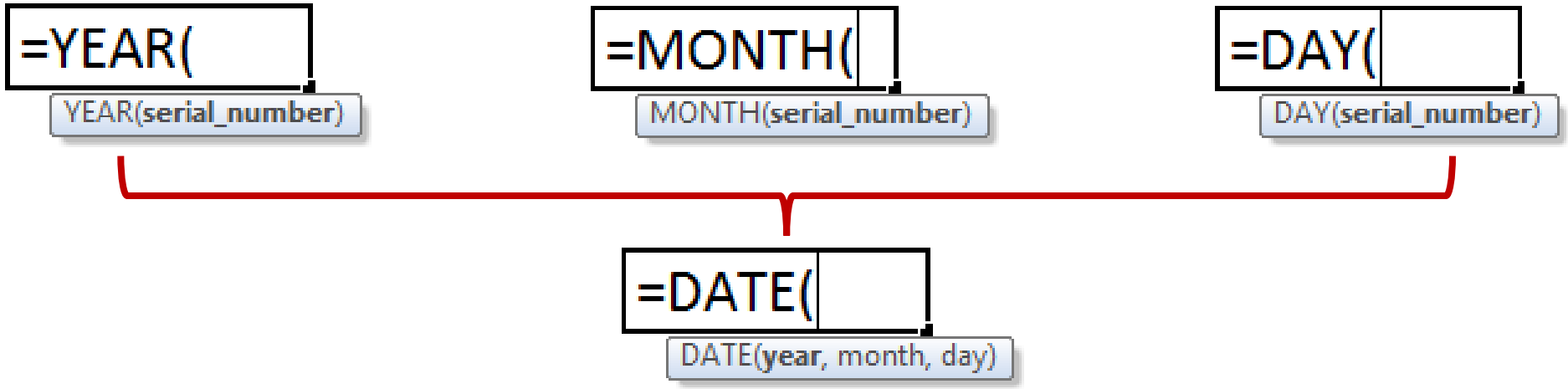
- Returns the current date as per PC's system clock
- Updates every time the file is opened (dynamic)
- **Ctrl + ;** and press **Enter** - for inserting current date (static)



- Returns the current date and time as per PC's system clock
- Updates every time the file is opened (dynamic)
- **Ctrl + Shift + ;** and press **Enter** - for inserting current time (static)

Extracting date info with - DAY(), MONTH(), YEAR()

	A	B	C	D	E	F	G
1							
2			=DAY()	=MONTH()	=YEAR()		=DATE()
3	3-Jun-11		3	6	2011		3-Jun-11
4							
5			=DAY(A3)	=MONTH(A3)	=YEAR(A3)		=DATE(E3,D3,C3)



Compiles the three components – Year, Month, Day in a date value

Extracting date info with - TEXT()

- Converts the date into Custom format. E.g., “mmmm-yyyy” will display June-2011
- **Important:** Resultant answer value is not a date value but a text value. Used for display purposes and not for subsequent formula computations.

	A	B	C	D	E
1					
2			**=TEXT()**		
3	**3-Jun-11**		Friday		=TEXT(A3,"dddd")
4	**3-Jun-11**		Fri		=TEXT(A3,"ddd")
5	**3-Jun-11**		03		=TEXT(A3,"dd")
6					
7			**=TEXT()**		
8	**3-Jun-11**		June		=TEXT(A8,"mmmm")
9	**3-Jun-11**		Jun		=TEXT(A9,"mmm")
10	**3-Jun-11**		06		=TEXT(A10,"mm")
11					

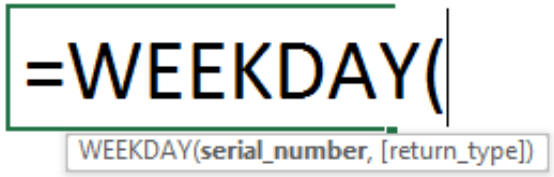
	A	B	C	D	E
12					
13			**=TEXT()**		
14	**3-Jun-11**		2011		=TEXT(A14,"yyyy")
15	**3-Jun-11**		2011		=TEXT(A15,"yyy")
16	**3-Jun-11**		11		=TEXT(A16,"yy")

Use EOMONTH() and EDATE() for Financial Modeling, Due Dates, Expiry Date

- Returns the **last day of the month** before or after a specified number of months.
- Used for due dates computations such as 5th of next month, end of current month
- Used for creating timelines in Budget & Forecast models – MoM, QoQ, YoY

- Returns the date that represents the indicated number of months before or after the start date. E.g., 2 months (may not be 60 days)
- Used for computing 3 months' notice period end date, retirement age, probation period, contract deadline, EMI installment due date

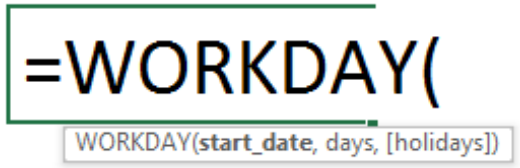
Date Formulas - WEEKDAY()



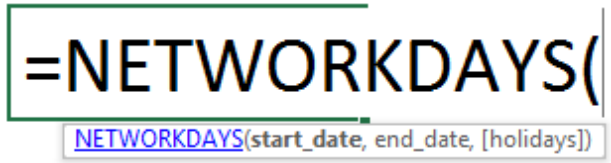
- Returns a value from 1 to 7, representing day of the week
- E.g., 1=Sunday, 2=Monday, 7= Saturday
- Used with IF() to write day based logical formula. E.g., *=IF(WEEKDAY(A1)=1,"Holiday","Office Day")*

... cont'd

Project Management – WORKDAY() & NETWORKDAYS()



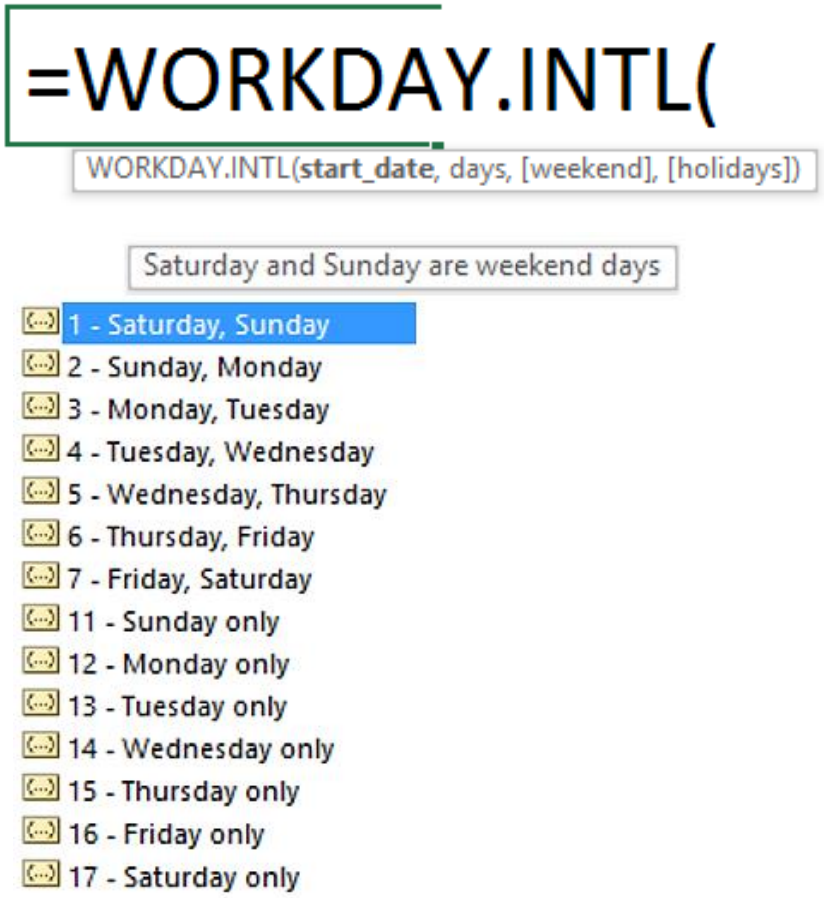
- Returns the date before or after a specified number of weekdays (weekends excluded). It **excludes start date** in computing final answer.
- E.g., If Cell A1 is 30-Dec-2011, then *=WORKDAY(A7,5)-1* will return 5-Jan-2012. 1-Jan-2012 is a Sunday and hence, excluded.
- Scheduled public holidays can also be excluded
- Used to **calculate deadline and due dates**



- Returns the number of weekdays (weekends excluded) between two dates. It **includes start date** in computing final answer.
- Scheduled public holidays can also be excluded
- Used to calculate **no. of working days between two dates**

WORKDAY.INTL() and NETWORKDAY.INTL() - They have an additional logic to identify different weekends. E.g., Fri-Sat vs Sat-Sun vs Sun

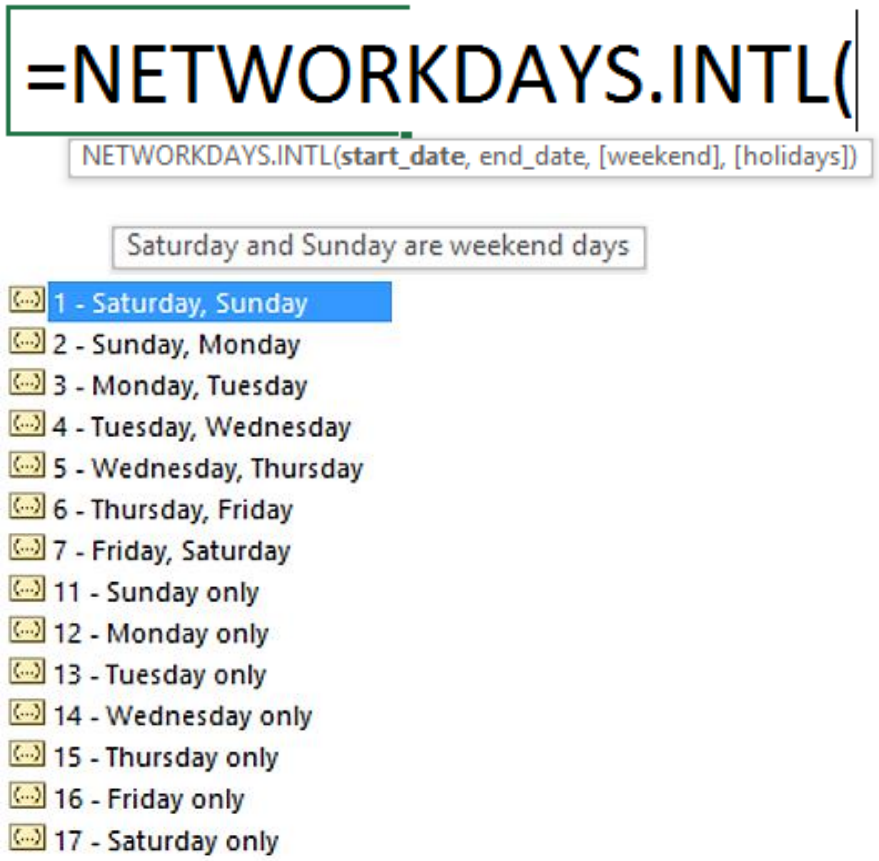
WORKDAY.INTL()



- Returns the date before or after a specified number of weekdays (weekends excluded). It **excludes start date** in computing final answer

- Scheduled public holidays can also be excluded
- Used to **calculate deadline and due dates**
- **How is it different from =WORKDAY()?** It allows the user to specify which days are counted as weekends. E.g., Fri-Sat vs Sat-Sun vs Sun

NETWORKDAYS.INTL()



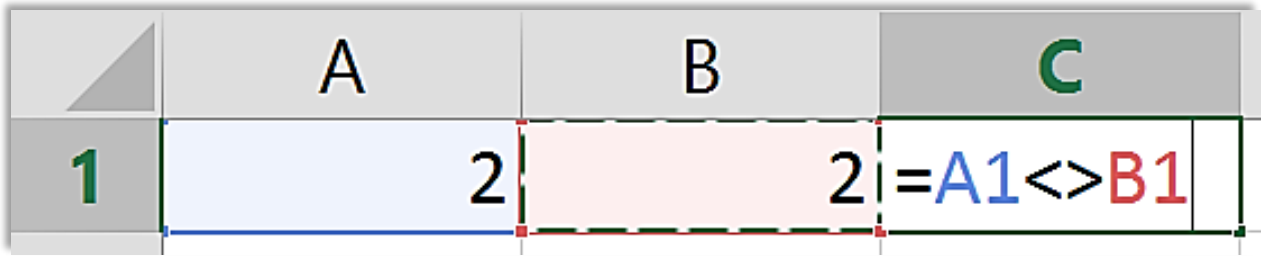
- Returns the number of weekdays (weekends excluded) between two dates.
- It **includes start date** in computing final answer

- Scheduled public holidays can also be excluded
- Used to calculate no. of business days between two dates and in Project Management

- **How is it different from =NETWORKDAYS()?** It allows the user to specify which days are counted as weekends. E.g., Fri-Sat vs Sat-Sun vs Sun

04 | Logical formulas

Not Equal To Operator <>



Answer will be FALSE
since A1 = B1

Logical formulas - generally used with IF()

=ISBLANK

ISBLANK — Checks whether a reference is to an empty cell, and returns TRUE or FALSE

=ISNUMBER

ISNUMBER — Checks whether a value is a number, and returns TRUE or FALSE

[ISNUMBER is used to check the validity of dates as technically every valid date in Excel is a "number"]

=ISTEXT

ISTEXT — Checks whether a value is text, and returns TRUE or FALSE

=ISERROR

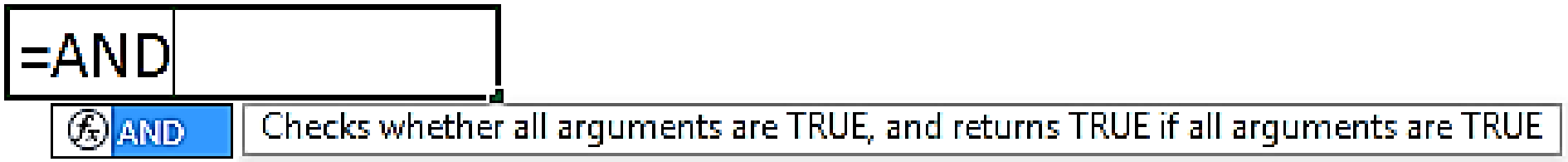
ISERROR — Checks whether a value is an error (#N/A, #VALUE!, #REF!, #DIV/0!, #NUM!, #NAME?, or #NULL!), and returns TRUE or FALSE

=ISFORMULA

ISFORMULA — Checks whether a reference is to a cell containing a formula, and returns TRUE or FALSE

Others: ISNA(), ISREF(), ISERR()

Logical formulas – AND(), OR(), IF()



Example:

	A	B	C	D	E	G
8	Name	Salary p.a. (US$)	Division	Rating	Rating 1-3 AND Division "CDFD" AND Salary < 50K	
9	AbduSalaam, Ismael	38,261	HFD	3	=AND(D9<4,C9="CDFD",B9<50000)	
426					AND(logical1, **[logical2]**, [logical3], [logical4], ...)	

[FALSE because Division is not equal to “CDFD”]

Logical formulas – AND(), OR(), IF()

=OR

OR | Checks whether any of the arguments are TRUE, and returns TRUE or FALSE. Returns FALSE only if all arguments are FALSE

Example:

	A	B	C	D	F	G
8	Name	Salary p.a. (US$)	Division	Rating	Rating 1-3 AND Division "CDFD" AND Salary < 50K	
9	AbduSalaam, Ismael	38,261	HFD	3	=OR(D9<4,C9="CDFD",B9<50000)	
426						

OR(**logical1**, [logical2], [logical3], [logical4], ...)

[TRUE because at least one of **three conditions** is TRUE]

Combine Logical formulas – AND(), OR(), IF()

=IF(

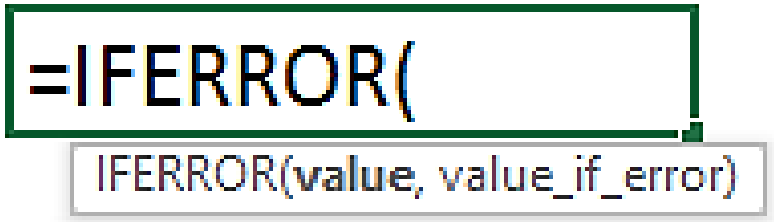
IF(logical_test, [value_if_true], [value_if_false])

Example:

	A	B	C	D	F	G	H	I
8	Name	Salary p.a. (US$)	Division	Rating	Rating 1-3 AND Division "CDFD" AND Salary < 50K			
9	AbduSalaam, Ismael	38,261	HFD	3	=IF(OR(D9<4,C9="CDFD",B9<50000),"Bonus","No Bonus")			

[Bonus]

IFERROR() – what's the message or action if error



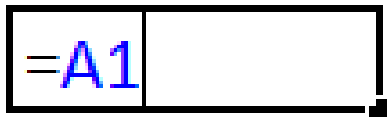
- =IFERROR(VLOOKUP() , "Data Not Available") - alternative message
- =IFERROR(VLOOKUP() , VLOOKUP()) - alternative action

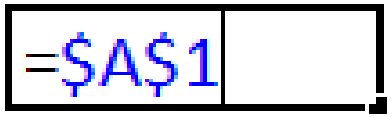
- Nested IFERROR:

  =IFERROR(VLOOKUP() , IFERROR(VLOOKUP() , "Data Not Available"))

Absolute & Relative referencing using $ - locking the cell or a range

After selecting a cell or a range of cells, keep pressing the function key **<F4>** or **<Fn+F4>** to toggle between the four combinations of cell referencing (as indicated):

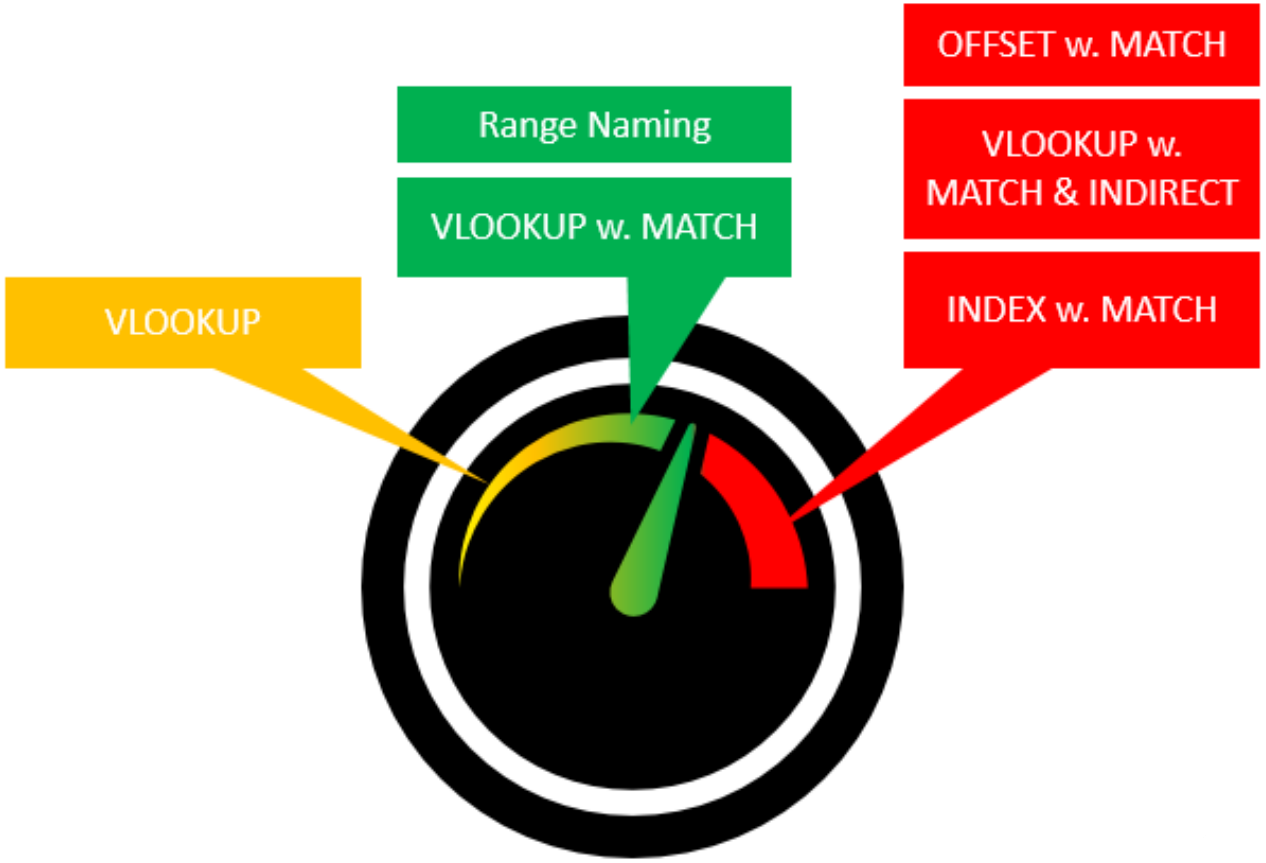




–	Row Fixed&Col Fixed	Row Fixed	Col FixedCol Fixed
A1 becomes B1 if copied **sideways (right)**	$A$1 remains $A$1 if copied **sideways**	A$1 becomes B$1 if copied **sideways (right)**	$A1 remains $A1 if copied **sideways**
A1 becomes A2 if copied **downwards**	$A$1 remains $A$1 if copied **downwards**	A$1 remains A$1 if copied **downwards**	$A1 becomes $A2 if copied **downwards**

05 | Lookup Formulas

Overview of Lookup formulas



Further reading – XLOOKUP

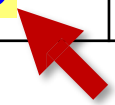
What is VLOOKUP?

When you are looking up for a name (ID) in a list (top to down), then it's a vertical lookup (VLOOKUP)

Step 1 – Whose details are you looking for?

SN	ID	Name	Score
01	1222	Karl	76
02	2134	Jenny	56
03	2111	Sam	42
04	2199	John	71
05	1221	Carol	92
06	1009	Ray	62

ID	Score
2199	?



lookup_value

Step 2 – Which table will you find the details in?

SN	ID	Name	Score
01	1222	Karl	76
02	2134	Jenny	56
03	2111	Sam	42
04	2199	John	71
05	1221	Carol	92
06	1009	Ray	62

***table_array* with ID as 1st column**

ID	Score
2199	?

lookup_value

Step 3 – Which column of the table will you find the details in?

SN	ID	Name	Score
01	1222	Karl	76
02	2134	Jenny	56
03	2111	Sam	42
04	2199	John	71
05	1221	Carol	92
06	1009	Ray	62

3

col_index_num

ID	Score
2199	?

lookup_value

table_array with ID as 1st column

Step 4 – False or True?

SN	ID	Name	Score
01	1222	Karl	76
02	2134	Jenny	56
03	2111	Sam	42
04	2199	John	**71**
05	1221	Carol	92
06	1009	Ray	62

3

col_index_num

ID	Score
2199	**71**

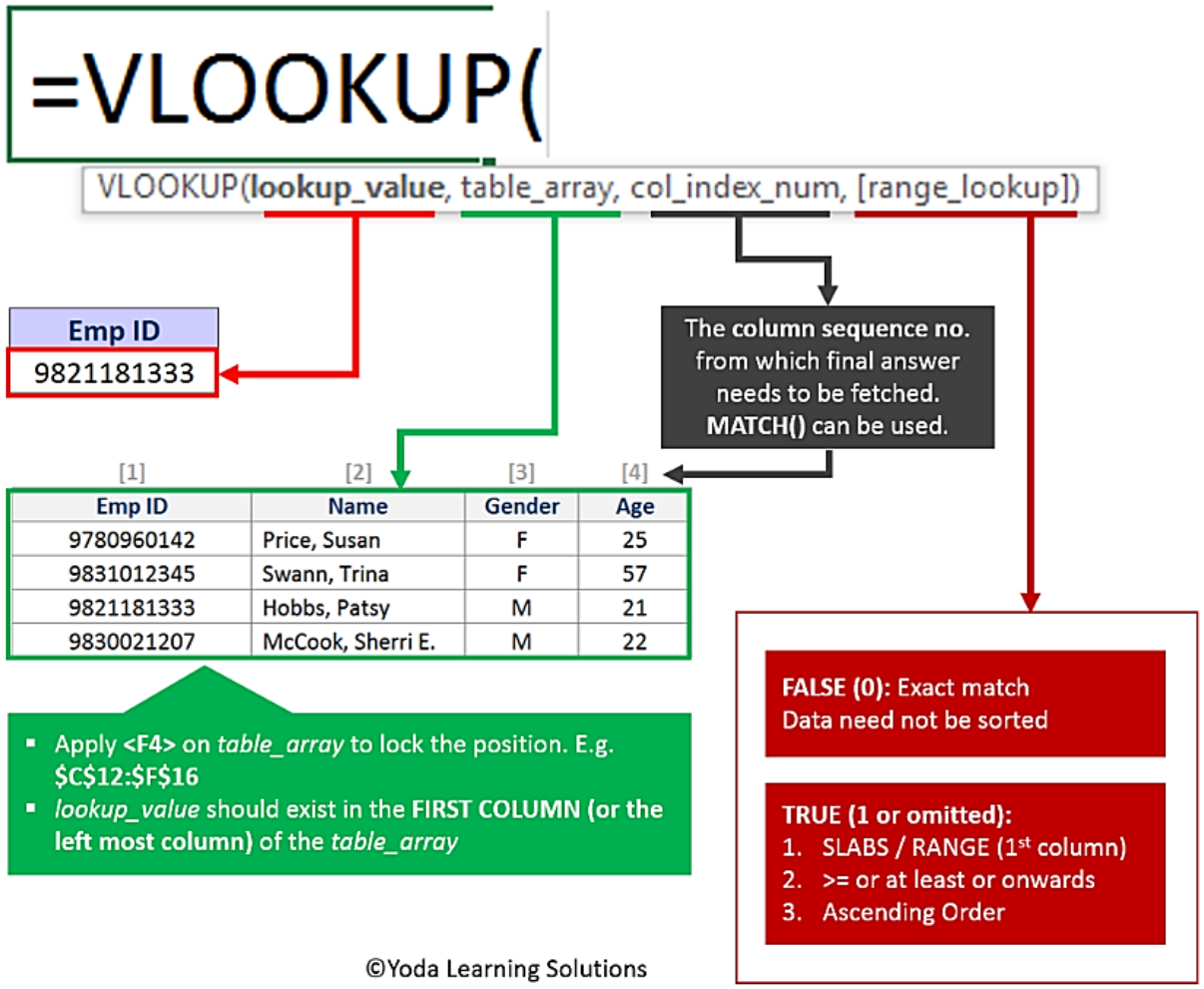
lookup_value

table_array with ID as 1st column

- **FALSE (0) is for EXACT match**
- TRUE (1) is for SLABS cases…

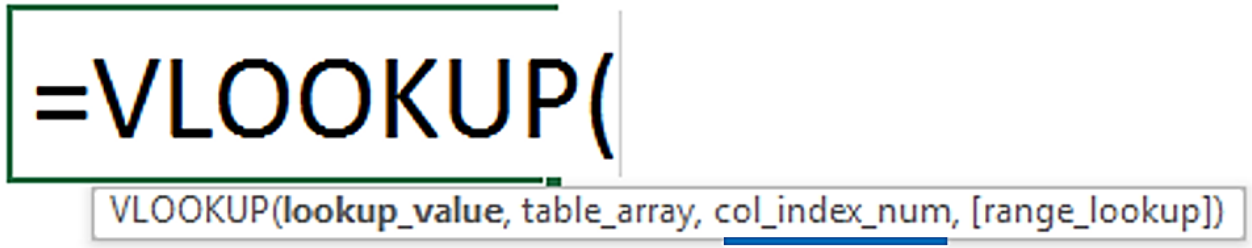
  to be discussed later

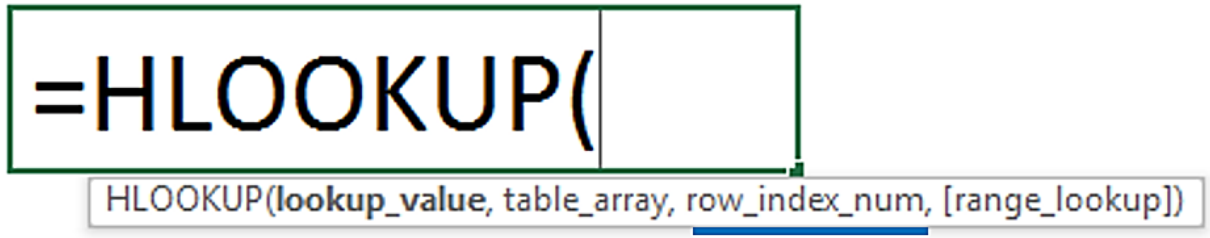
VLOOKUP Summarized


=VLOOKUP(
VLOOKUP(lookup_value, table_array, col_index_num, [range_lookup])
Emp ID
9821181333
The column sequence no. from which final answer needs to be fetched. MATCH() can be used.
[1] [2] [3] [4]
Emp ID | Name | Gender | Age
9780960142 | Price, Susan | F | 25
9831012345 | Swann, Trina | F | 57
9821181333 | Hobbs, Patsy | M | 21
9830021207 | McCook, Sherri E. | M | 22
Apply <F4> on table_array to lock the position. E.g. $C$12:$F$16
lookup_value should exist in the FIRST COLUMN (or the left most column) of the table_array
FALSE (0): Exact match
Data need not be sorted
TRUE (1 or omitted):
1. SLABS / RANGE (1st column)
2. >= or at least or onwards
3. Ascending Order
©Yoda Learning Solutions

- "lookup_value" should be in the same format as the values stored in the first column of the selected "table_array"
- **Detect format using:** ISNUMBER(), ISTEXT(), LEN()
- **Rectify format of 'nos. stored as text'** – VALUE(), Text-to-Columns (Step 3/3) – General
- Avoid pressing F2 & Enter continuously on individual cells to update the format manually

HLOOKUP() vs. VLOOKUP()





Use VLOOKUP with TRUE when 3 conditions met

- Values of **slabs** (0-10, 11-30, etc.) are re-arranged in …
- an **ascending** order, and where each of these value are read as…
- **at least (>=)**

=VLOOKUP(E5,$A$1:$C$7,2,True)

VLOOKUP(lookup_value, table_array, col_index_num, [range_lookup])

TRUE - Approximate match
FALSE - Exact match

Remember: TRUE or 1 DOES NOT mean *Approximate match*

Example: Let's say you scored 77.

%	Grades
93.00 - 100	A
91.00 - 92.99	A -
83.33 - 90.99	B +
79.00 - 83.32	B
76.67 - 78.99	B -
73.33 - 76.66	C +
70.00 - 73.32	C
66.67 - 69.99	C -
63.33 - 66.66	D +
60.00 - 63.32	D
56.67 - 59.99	D -
0.00 - 56.66	F

What grade will you receive?

Which formula will you prefer to write - 1 or 2?

%	Grades
93.00 - 100	A
91.00 - 92.99	A -
83.33 - 90.99	B +
79.00 - 83.32	B
76.67 - 78.99	B -
73.33 - 76.66	C +
70.00 - 73.32	C
66.67 - 69.99	C -
63.33 - 66.66	D +
60.00 - 63.32	D
56.67 - 59.99	D -
0.00 - 56.66	F

1

```
=IF(K5>92.99,"A, 4.00",IF(K5>90.99,"A-, 3.67",IF(K5>83.32,"B+, 3.33",IF(K5>78.99, "B, 3.00",IF(K5>76.66,"B-, 2.67",IF(K5> 73.32,"C+, 2.33",IF(K5>69.99,"C, 2.00",IF( K5>66.66,"C-, 1.67","D+, 1.33")))))))))
```

OR

2

```
=VLOOKUP(K8,$W$9:$X$21,2,1)
```

Convert table format (left → right)

%	Grades
93.00 - 100	A
91.00 - 92.99	A -
83.33 - 90.99	B +
79.00 - 83.32	B
76.67 - 78.99	B -
73.33 - 76.66	C +
70.00 - 73.32	C
66.67 - 69.99	C -
63.33 - 66.66	D +
60.00 - 63.32	D
56.67 - 59.99	D -
0.00 - 56.66	F

% >=	Grades
0	F
56.67	D -
60.00	D
63.33	D +
66.67	C -
70.00	C
73.33	C +
76.67	B -
79.00	B
83.33	B +
91.00	A -
93.00	A

- Values of **slabs** (0-10, 11-30, etc.) are re-arranged in ...
- an **ascending** order, and where each of these value are read as...
- **at least (>=)**

```
=VLOOKUP(K8,$W$9:$X$21,2,1)
```

Let’s take a simpler example to understand…

Case Study

- **Situation:** The table to assign the grade (A+ to E) based on the scores (0 to 5) have been provided.
- **Complexity:** To calculate the correct grade, it will take a complex Nested IF statement.

Ratings Range	Grade
0-3	E
3.1 to 3.5	D
3.6 to 4.0	C
4.1 to 4.5	B
4.6 to 4.9	A
5	A+

© YL Academy

	A	B	C	D
1				
2	**Name**	AbduSalaam, Ismael		
3	**Rating**	3.5		
4	**Grade**	=IF(B3<3.1,"E",IF(B3<3.6,"D",IF(B3<4.1,"C",		
5		IF(B3<4.6,"B",IF(B3<5,"A","A+")))))		

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Complex nested IF statement

... cont'd

- **Solution:** Use VLOOKUP with TRUE

1. Create a new column with ratings range (number) arranged in an **ascending order** and where every value is read top to down with the meaning of **>=**

Ratings Range	Grade
0-3	E
3.1 to 3.5	D
3.6 to 4.0	C
4.1 to 4.5	B
4.6 to 4.9	A
5	A+

© YL Academy

	F	G	H
1			
2			© YL Academy
1	>=	Ratings Range	Grade
4	0	0-3	E
5	3.1	3.1 to 3.5	D
6	3.6	3.6 to 4.0	C
7	4.1	4.1 to 4.5	B
8	4.6	4.6 to 4.9	A
9	5	5	A+
10			

... cont'd

2. Use VLOOKUP with TRUE

Applications: VLookup() with "True"

© YL Academy

Name	Rating	Grade
AbduSalaam, Ismael	3.5	=VLOOKUP(C4,$F$4:$H$9,3,TRUE)
Abney, Jeffery	3.9	C
Adams, Jennifer M	3.7	C

2

TRUE means 1

© YL Academy

>=	Ratings Range	Grade
0	0-3	E
3.1	3.1 to 3.5	D
3.6	3.6 to 4.0	C
4.1	4.1 to 4.5	B
4.6	4.6 to 4.9	A
5	5	A+

Values of **slabs** (0-10, 11-30, etc.) are re-arranged in an **ascending** order, and where each of these value are read as **at least (>=)**

Real-life use cases of VLOOKUP with TRUE

[Simple score grading]

%	Grades
0 - 39	Fail
40 - 79	Pass
80 - 99	Scholar
100	Hall of Fame

% >=	Grades
0	Fail
40	Pass
80	Scholar
100	Hall of Fame

[Debtors' ageing]

Overdue Days	Risk-level
0 - 30	L1
31 - 60	L2
61 - 90	L3
91 - 180	L4
>180	L5

% >=	Overdue Days	Risk-level
0	0 - 30	L1
31	31 - 60	L2
61	61 - 90	L3
91	91 - 180	L4
181	>180	L5

[Dates]

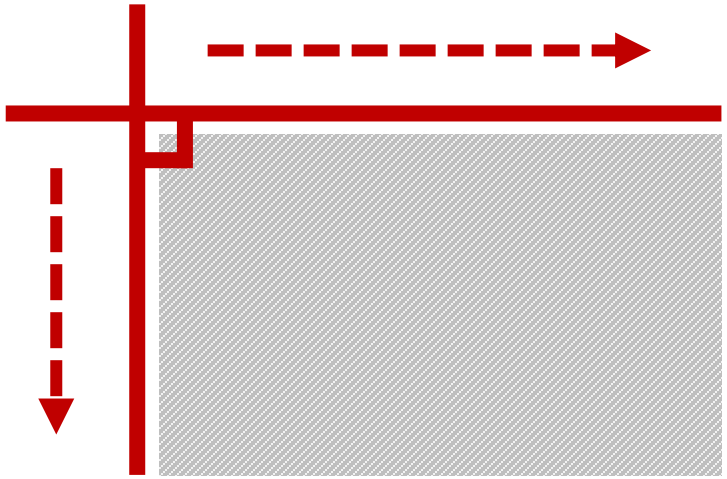
Effective time period	Tax Rate (%)
01-Apr-2012 to 31-May-2015	12.36
01-Jun-2015 to 14-Nov-2015	14.00
15-Nov-2015 to 31-May-2016	14.50
01-Jun-2016 to 30-Jun-2017	15.00
01-Jul-2017 onwards	18.00

Effective from (WEF) >=	Tax Rate (%)
01-Apr-2012	12.36
01-Jun-2015	14.00
15-Nov-2015	14.50
01-Jun-2016	15.00
01-Jul-2017	18.00

Why 2-D Lookup?

VLOOKUP() with MATCH()

2-D Lookup – When you have to pull a value from a cross-tab or pivoted table using two inputs



Product Name	Product 1
Location	London
Price	

Price List:

	Amsterdam	London	New York
Product 1	4,500	4,000	4,250
Product 2	3,400	2,800	3,500
Product 3	10,300	9,400	9,850
Product 4	450	400	458
Product 5	6,700	5,786	7,000

Option 1: Complex Nested IFs

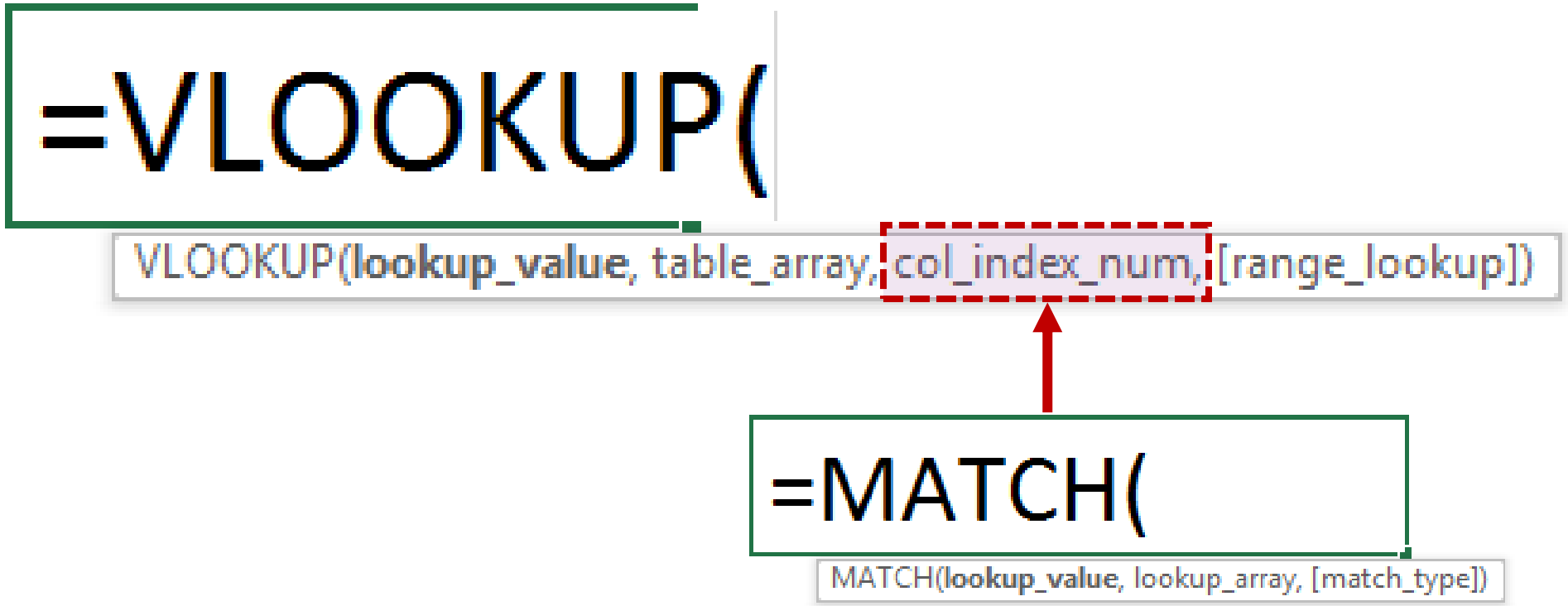
Product Name	Product 1
Location	London
Price	=IF(AND(C3="Product 1",C4="London"),4000,IF(AND(

© Excel Superstar

Price List:

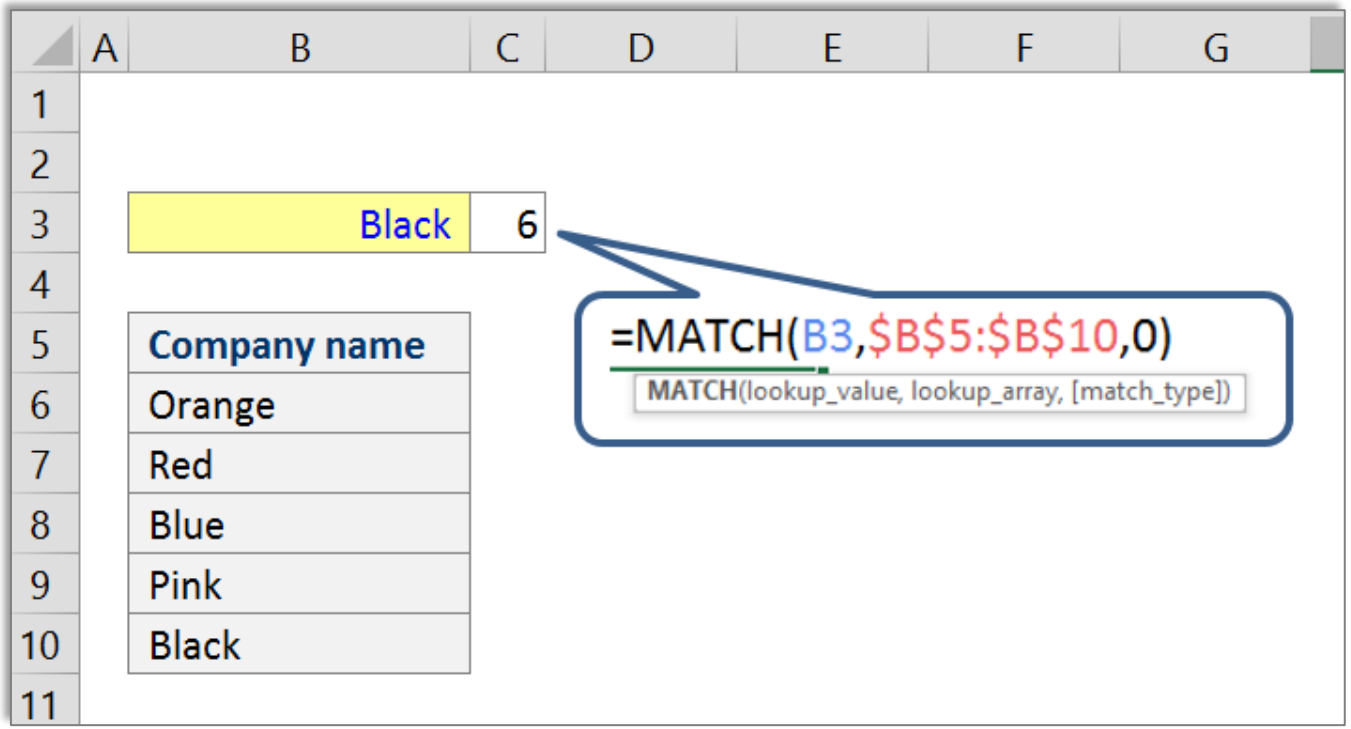
	Amsterdam	London	New York
Product 1	4,500	4,000	4,250
Product 2	3,400	2,800	3,500
Product 3	10,300	9,400	9,850
Product 4	450	400	458
Product 5	6,700	5,786	7,000

Option 2: VLOOKUP + MATCH



MATCH function assists VLOOKUP in finding the position no. (col_index_num)

MATCH() – Basics & match_type: -1 vs. 0 vs. 1



[MATCH helps count the **position number** (1st, 2nd, 3rd…) in a **one-dimensional data range**]

MATCH() with 1	MATCH() with -1
• Slab • with values in ascending order • Greater than equal to (>=)	• Slab • with values in descending order • Less than equal to (<=)

The chemistry between VLOOKUP & MATCH…

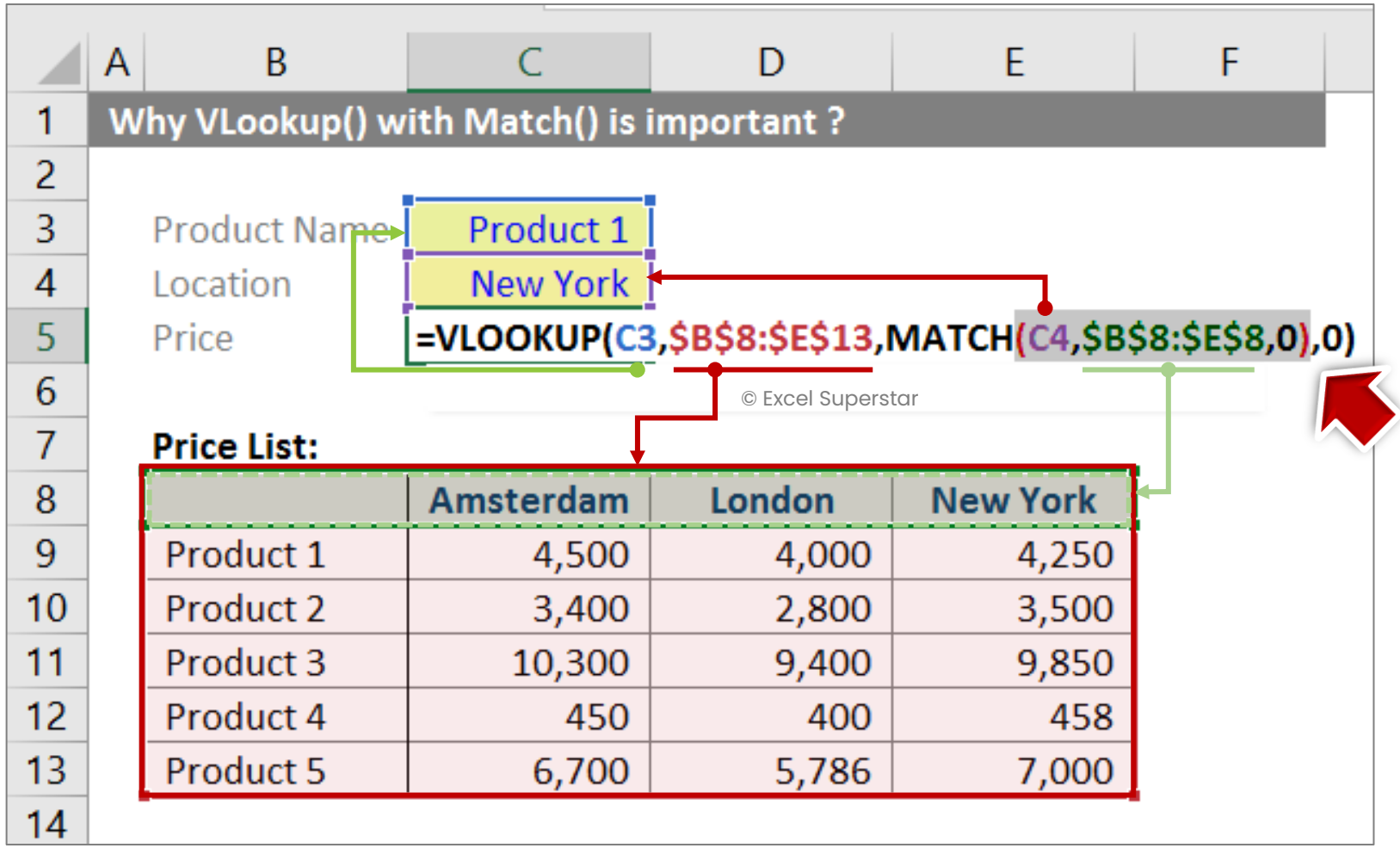
VLOOKUP() is the ***senior*** here

Emp ID	Name	Gender	Age
9780960142	Price, Susan	F	25
9831012345	Swann, Trina	F	57
9821181333	Hobbs, Patsy	M	21
9830021207	McCook, Sherri E.	M	22

Junior (header) follows Senior (table)

MATCH() is the ***junior*** here

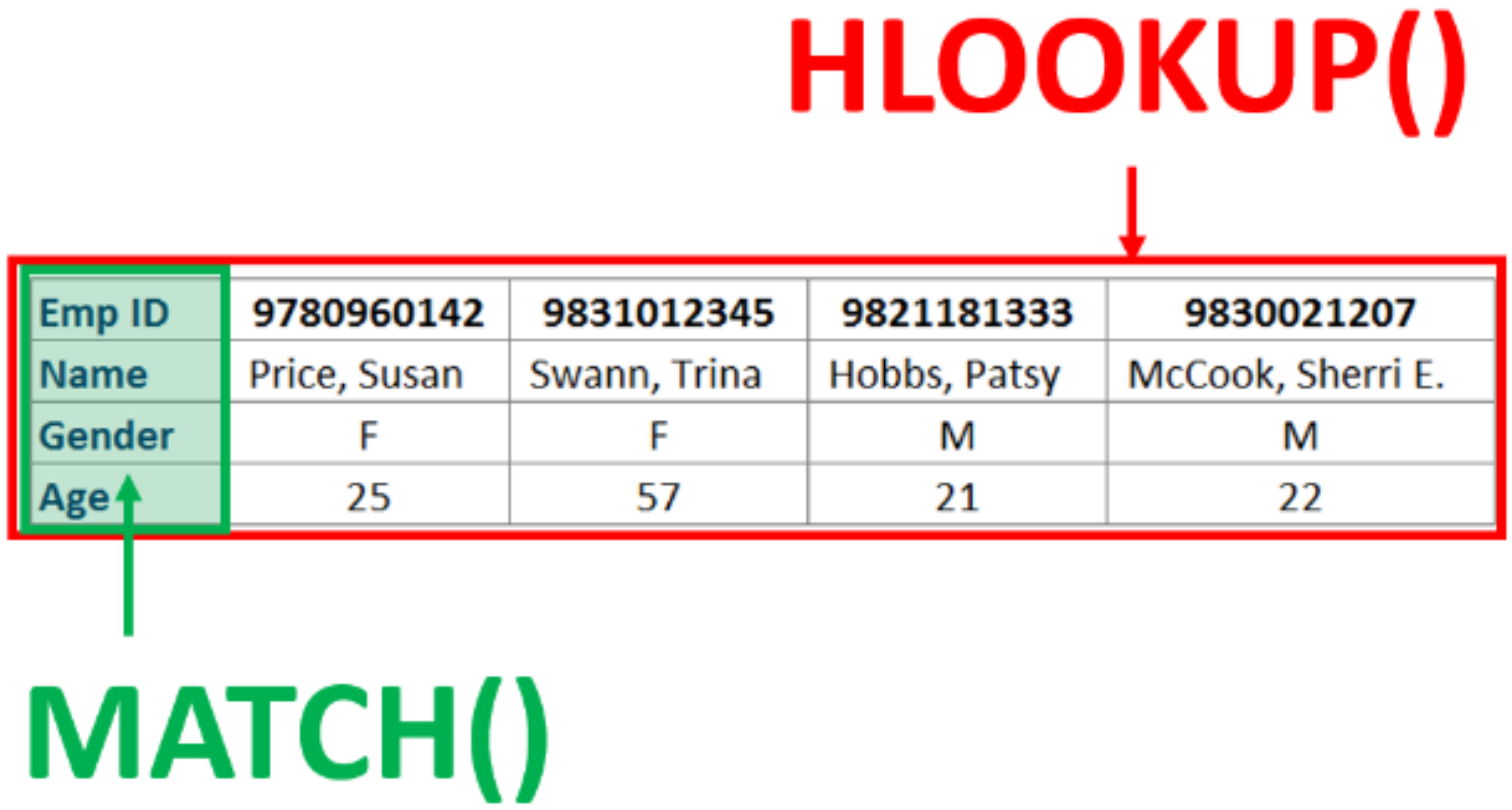
How VLOOKUP & MATCH look like when they are together?



0 (zero) for exact match.

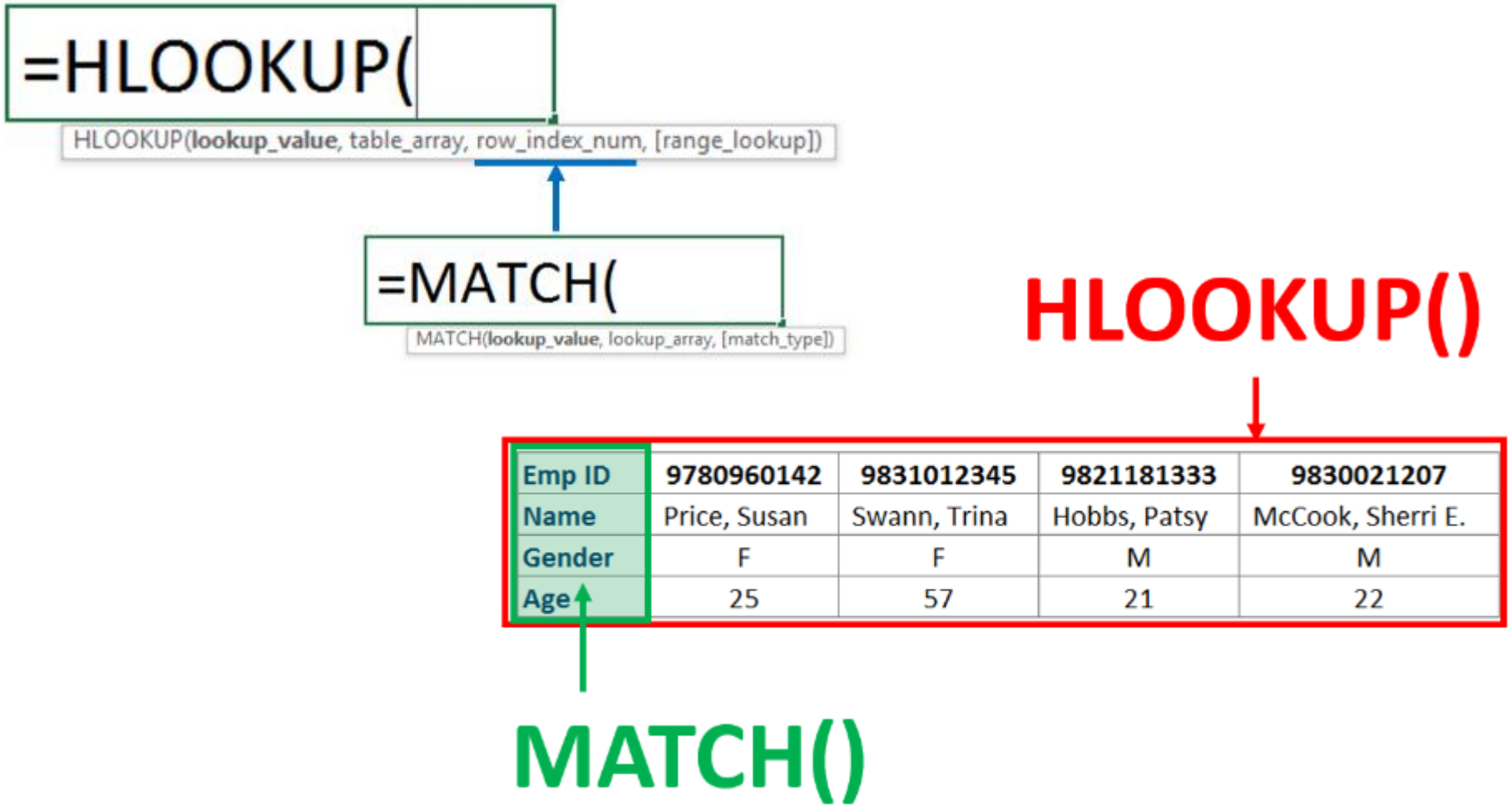
How HLOOKUP & MATCH look like?

```
=HLOOKUP(H2,$A$2:$E$5,MATCH(G1,$A$2:$A$5,0),0)
```



Emp ID	9780960142	9831012345	9821181333	9830021207
Name	Price, Susan	Swann, Trina	Hobbs, Patsy	McCook, Sherri E.
Gender	F	F	M	M
Age	25	57	21	22

Bonus: HLOOKUP (senior) with MATCH (junior)

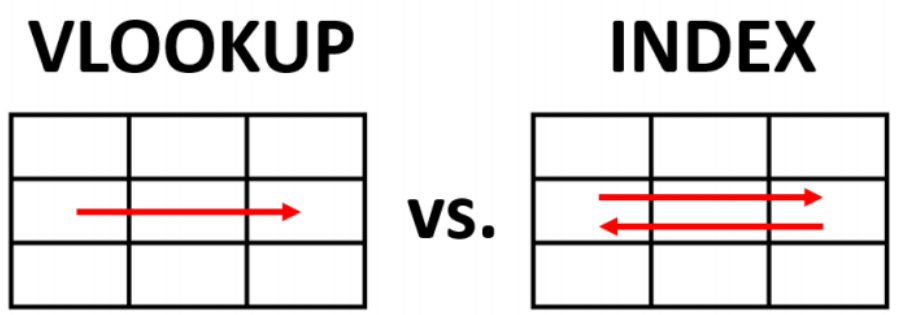


Emp ID	9780960142	9831012345	9821181333	9830021207
Name	Price, Susan	Swann, Trina	Hobbs, Patsy	McCook, Sherri E.
Gender	F	F	M	M
Age	25	57	21	22

Why reverse Lookup?

INDEX() with MATCH()

Reverse Lookup - INDEX() w. MATCH()



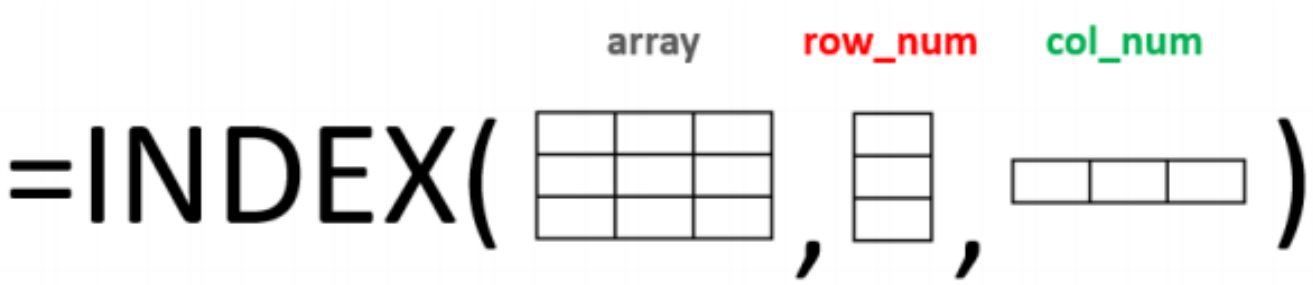
VLOOKUP cannot look left-side.

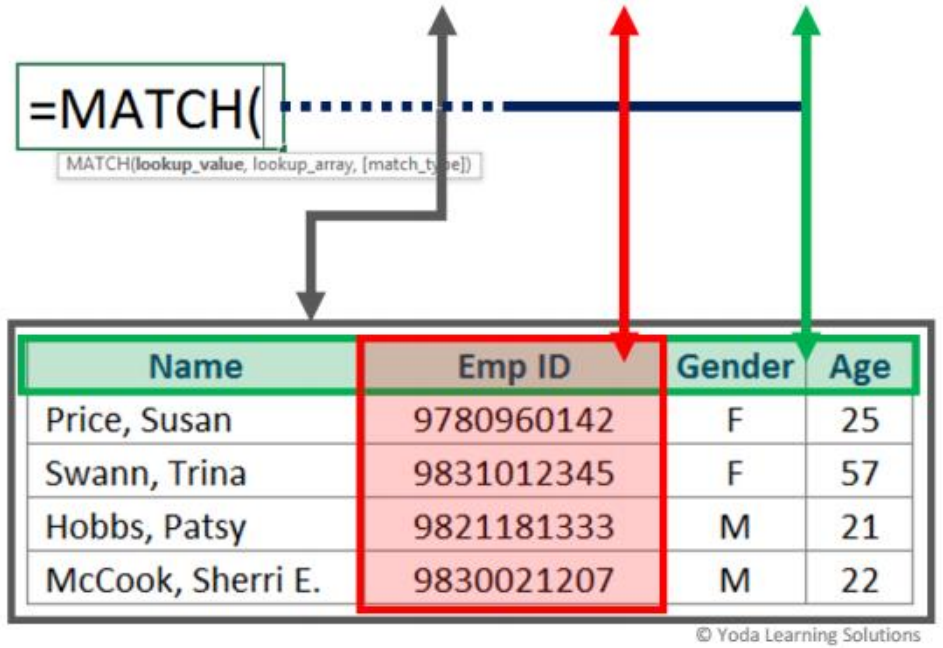
Product Name	Product 1	
Location	NCR	
	???	

Mumbai	Product Name	NCR
4,500	Product 1	4,000
3,400	Product 2	2,800
10,300	Product 3	9,400
450	Product 4	400
6,700	Product 5	5,786

IMM vs VM: Both VM and IMM approaches are useful for pulling data from any 2x2 data matrix. However, IMM is useful for reverse Lookup. Unlike VM, IMM doesn't require the common link values to be in the left-most column of the database.

Formula for INDEX() & MATCH() - simplified

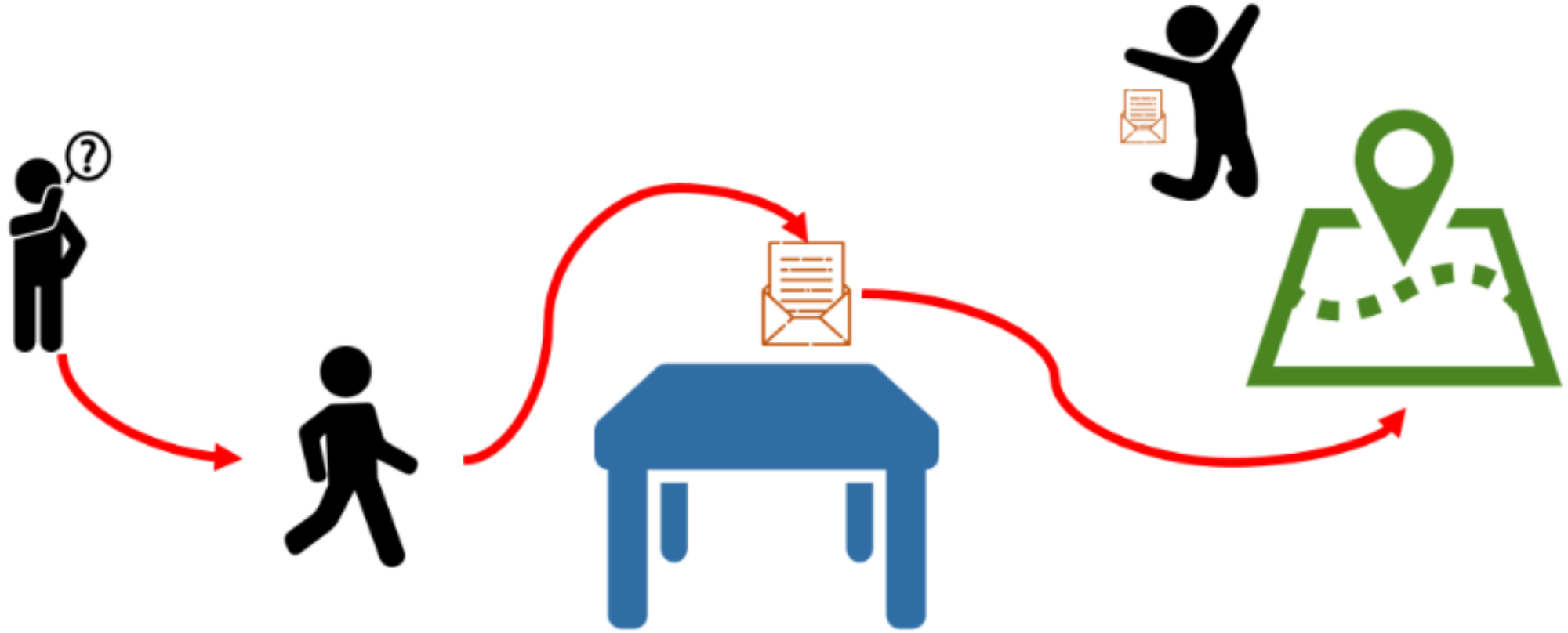




VLOOKUP's parameter

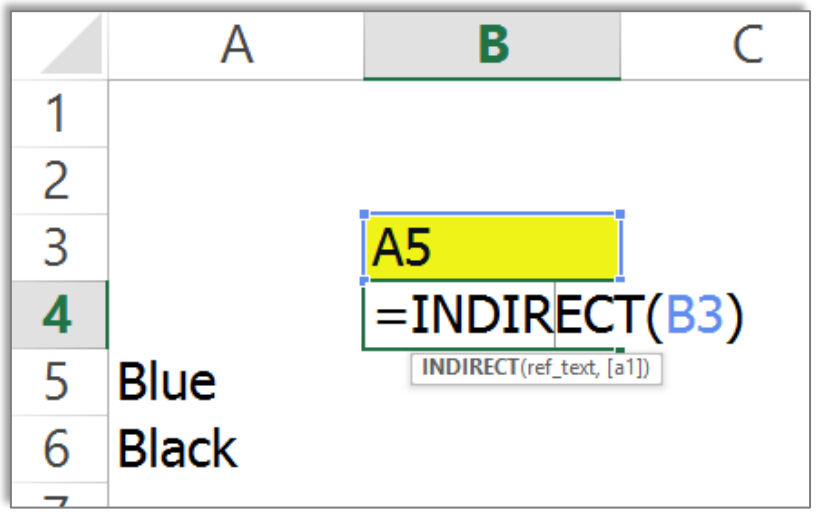
col_index_num cannot be **-1**

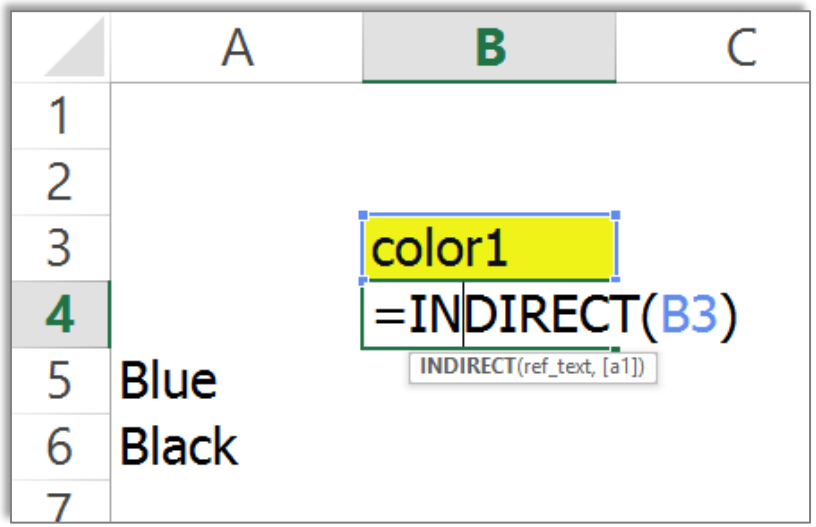
INDIRECT() – Applications ["RE-DIRECTION"]



INDIRECT() basics - with Range Naming

INDIRECT() w. cell reference	INDIRECT() w. named range



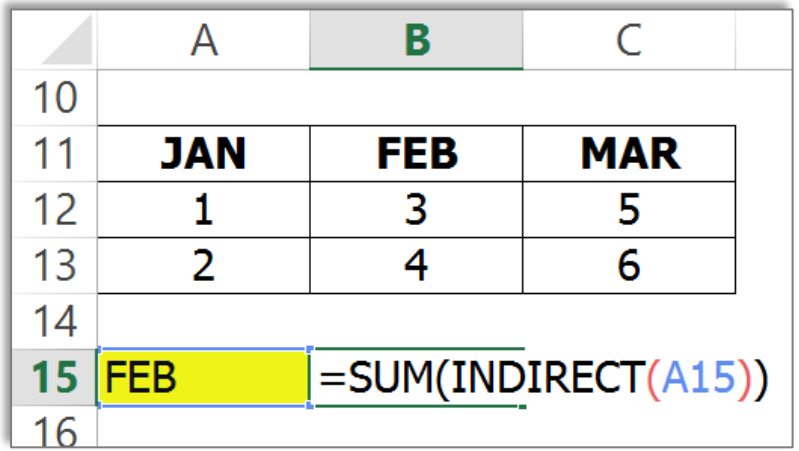


Solution in cell B4 is Blue

Note:

- Use INDIRECT when you want to change the reference to a cell within a formula without changing the formula itself.
- Named Cell/Range can be used as an input for INDIRECT
- Often used to create 3D Lookup formulas along with VLookup + Match
- INDIRECT() is used for references within the SAME workbook. Cross-linking different workbook is best avoided as it works only when all relevant workbooks are open - Yields a #REF! error if not done so.

Example:

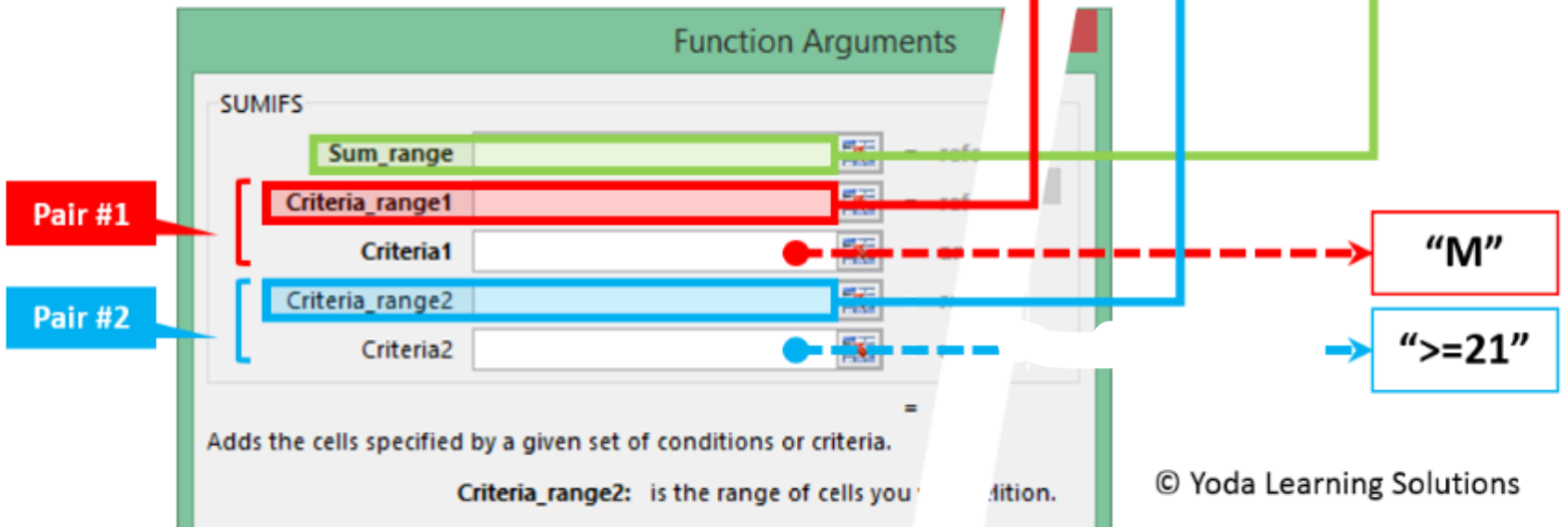


06 | Conditional math formulas

SUMIFS() - Conditional Summation

=SUMIFS()

Name	Gender	Age	Stipend
Price, Susan	F	25	$ 10,000
Swann, Trina	F	57	$ 12,000
Hobbs, Patsy	M	21	$ 8,000 ✓
McCook, Sherri E.	M	22	$ 20,000 ✓



Solution:

28,000 i.e., 8,000 + 20,000

Note:

(1) Use <F4> to lock *Criteria_range* & *Sum_range*

(2) Maintain SAME HEIGHT for all the RANGES

(3) SUMIFS can accept multiple criteria (127 !) whereas SUMIF can accept only one

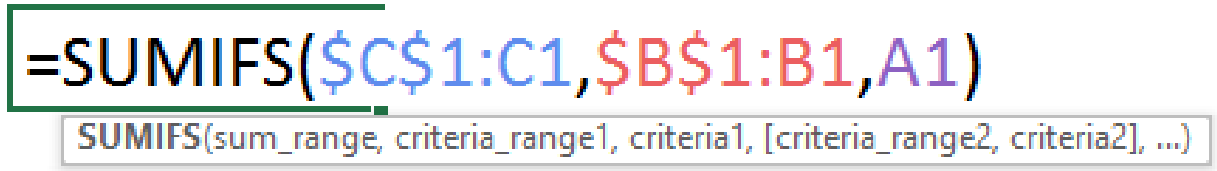
SUMIFS() – Operator for a date range

- If cell A1 contains “21-May-2001”, then the *Criteria_1* can be **“>=”&A1** indicating date 21-May-2001 onwards.
- The operators (> < = etc.) has to be enclosed in a pair of double-quotes and concatenated (&) with the cell reference containing valid date(s).

- For a date range, i.e., between {date1} and {date2}, two criteria will be needed. (1) >=date1 and (2) <=date2

SUMIFS() - ID based running total

- Careful use of relative references ($) can help yield **differential cumulative running total.** E.g., start of the range has been locked using <F4> -



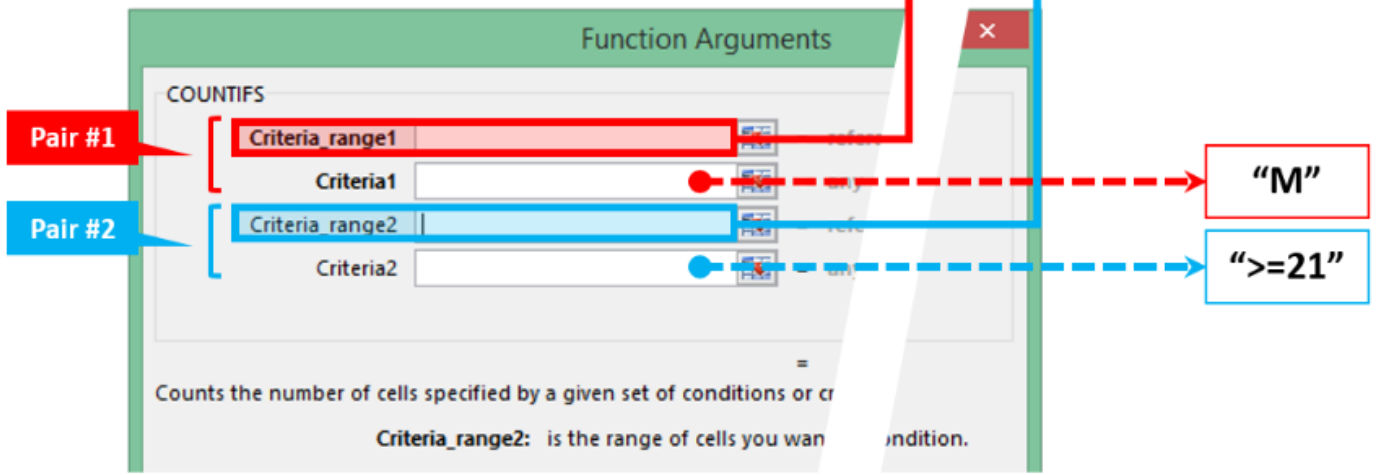
  - *C1:C1 refers to sum_range*
  - *B1:B1 refers to criteria_range*
  - *A1 refers to criteria*

COUNTIFS() - Conditional Counting

=COUNTIFS()

Name	Gender	Age	Stipend
Price, Susan	F	25	$ 10,000
Swann, Trina	F	57	$ 12,000
Hobbs, Patsy	M	21	$ 8,000 ✓
McCook, Sherri E.	M	22	$ 20,000 ✓

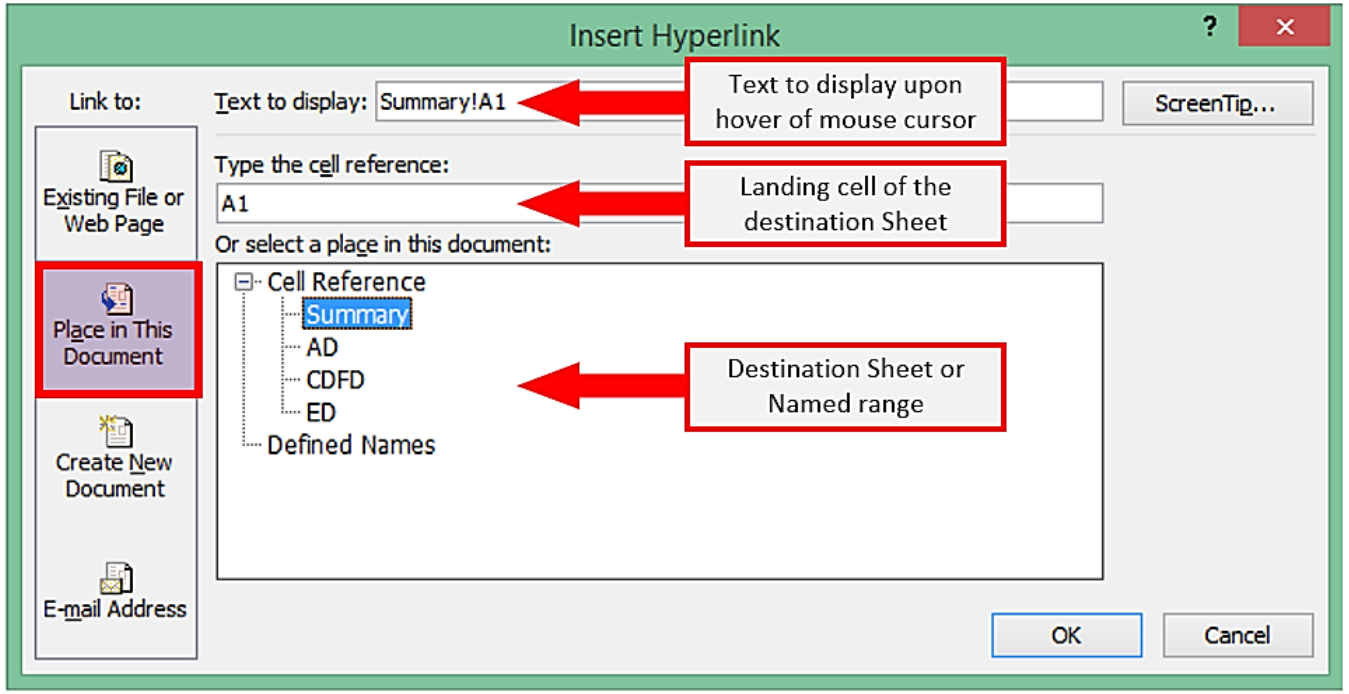
Solution: 2



- Used for 2-way list-reconciliation and duplicate counting. E.g., **=COUNTIFS($A$1:$A$100,A1)**
- Used for Instance No./Occurrence No. **=COUNTIFS($A$1:A1,A1)** – a name appearing 1st time, 2nd time…

07 | Misc. Formulas

Hyperlinking (Ctrl + K)



- **Example:** =HYPERLINK("http://www.yodalearning.com", "Click here for Excel Tricks")
- For more details, refer Microsoft Excel help

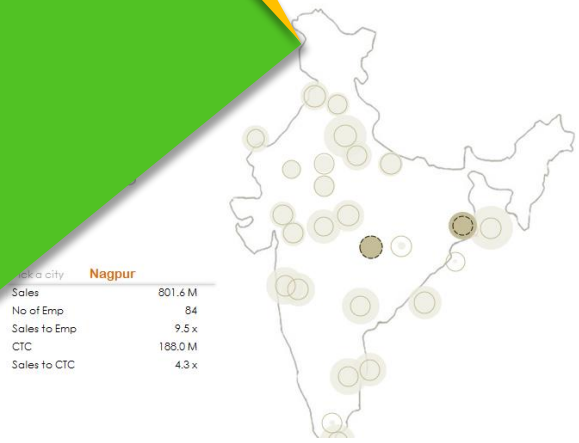
goodly

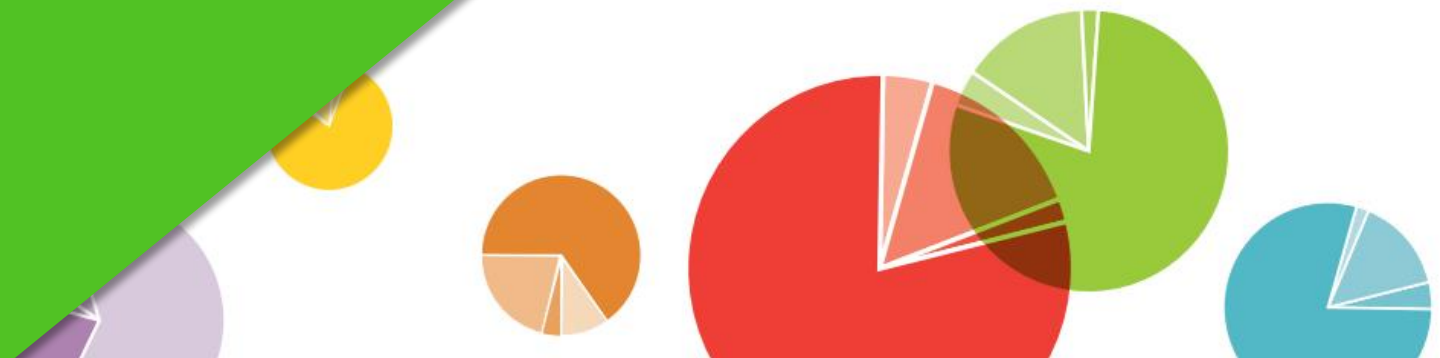
www.goodly.co.in

Excel Smart Guide

80 Tips and Tricks on Excel

Become Smarter in Excel !





Thanks for getting this EBook

Now that you have this eBook, I am assuming that Excel holds a ton of value in your work life and I am here just to give you that extra edge!

Every office has that one Excel Rock Star who is the apple of the boss's eye when it comes to analysis and number crunching in excel and needless to mention the perks that he enjoys!

"I want YOU to be that Rock Star"

How to use this book

I have written 80 tips & tricks under 9 different sections. These sections range from building speed and productivity to working with data to charts and even VBA

Most articles are pretty comprehensive and have a link to my blog, where I have the detailed explanation along with supplementary and additional resources that come along

Enjoy this eBook with a latte!

Share it !

- Does your friend or colleague use Excel ? Give it to him..
- Does your boss struggle with Excel ? Mail it to him
- Does your boyfriend / girlfriend work on Excel ? Send it to him/her (he/she will love you!)
- Does your ex use Excel at work ? Send it to him/her too (I do not know what will happen :D, but it will help them too)
- **The point is to share it with everyone you know who needs it!**

You have my permission to print it and make as many copies as you like, provided you do not change any content. But do not start selling it in any format. This eBook is free for you and for everyone whom you share it with

You can find more tips and tricks on Excel on www.goodly.co.in

Yours Chandeep

What is in it ?

This book is divided into 9 sub sections

Topic	Details	Page No
Shortcuts and Increasing Productivity	Boost your productivity with Excel. Get more done with speed and accuracy!	4
Kickass Formatting Tips	Learn some advanced tricks in formatting along with their applications	7
Formulas for Everyday Work	Intermediate to advanced formulas that surround most aspects of your work	9
VLOOKUP Exclusive	An exclusive section on VLOOKUP with advanced tricks and common mistakes in VLOOKUP	17
Working with Data	Data handling techniques, with focus on Pivot Tables and advanced filter	19
Advanced Charting Tips and Visualizations	Charting Basics + Learn to make stunning charts with detailed tutorials	23
Financial Modelling Tips	Basics of financial modelling and a few tips on model automation	30
Miscellaneous Utility Tools	Know the different tools that excel offers and how to work with them	32
VBA Automation & Quick Resources	Some ready to use common macros for your daily work	39

Section 1

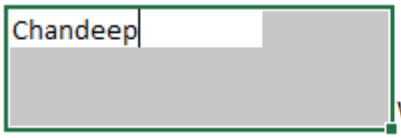
Shortcuts for Increasing Productivity

Tip #1 : Top 15 Shortcuts that I recommend you to start with

Sno	Shortcut	What it does	Quick Tip
1	CTRL + Arrow Keys	Jumps to the start and end of the data series	Use this a lot for navigating large workbooks, with many rows and columns. If you don't know this already, you'll love me for this
2	CTRL + PgUp / PgDn	Navigates to the next worksheet and to the previous worksheet	-
3	CTRL + SHIFT + L	Applying and removing filter	-
4	SHIFT + F11	Adding a new worksheet	-
5	ALT > I > R	Inserts a row	Select multiple rows and then use the shortcut to insert multiple rows
6	ALT > I > C	Inserts a column	Select multiple columns and then use the shortcut to insert multiple columns
7	CTRL + D	For copying down	To copy from first cell to the rest of the cells below it (contiguous range). The range needs to be selected first
8	CTRL + R	For copying right	To copy from first cell to the rest of the cells on the right (contiguous range). The range needs to be selected first
9	CTRL + 1	Opens the format cell dialogue box	Also opens the format options for chart objects, shapes etc.. Click on any chart object (axis, labels, series) and press Ctrl + 1
10	CTRL + SHIFT + - (minus sign)	Removes all borders from the selected cells	-
11	ALT > E > S	Opens the Paste Special dialogue box	-
12	Function F4 Key	In the edit mode it allows you to change the cell reference from relative to absolute or semi-absolute	F4 Once – Locks row & column ($A$1), F4 Twice – Locks row (A$1), F4 Thrice – Locks column ($A1), F4 forth time - Remove cell locking (A1)
13	ALT + = "equals sign"	Intelligently guesses the range/cells to Sum	-
14	Ctrl + : (Colon Sign)	Enters the current date in the cell	
15	ALT > O > C > W	Adjusting the width of the column	This is an old shortcut from Excel 2003 but still works a treat in all the versions till Excel 2013

Tip #2 : 4 Awesome Lesser Known Shortcuts

1. **Enter Data in multiple cells at once**
   1. Select Multiple Cells where you want to enter data
   2. Start typing your data. For E.g. "Chandeep"
   3. When done typing, press **Ctrl Enter** (instead of just pressing enter)
   4. Chandeep will be added to all the cells selected

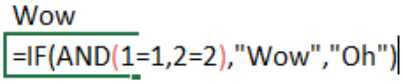


When done typing press **Ctrl Enter**

2. **Use the shortcut ALT + ; to select only Visible Cells**
   Quick Tip : Use it to select only filtered cells while applying filter

3. **Use the shortcut CTRL Shift O (the letter 'o') select all cells with comments**

4. **Use CTRL+' to copy a formula from above cell and open it in the edit mode**



Tip #3 : Download 100+ Excel Shortcuts pdf

If you would like to be a shortcut frenzy, here is my list of 100 + Excel Keyboard Shortcuts (Downloadable PDF). Enjoy!

Tip #4 : Watch Window in Excel

Watch windows are an amazing way to keep track of critical cells in your model or MIS. Here is a quick example

We have the **total and average of 150 records on Sheet 2**. The **back up data is on Sheet 1**

Now each time the back up data changes (on Sheet 1) you either have to memorize the total or come back to Sheet 2 to see the revised value

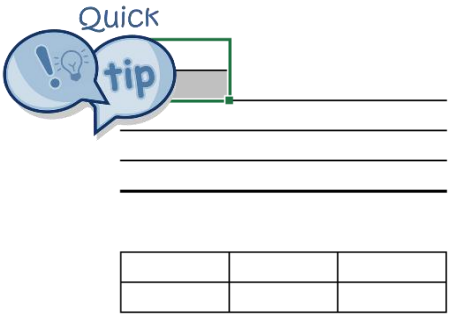
Learn to create Watch Windows to track cells live

Tip #5 : 10 Excel Habits that you must Develop

I must recommend you these 10 habits that have saved me countless hours of manual work, made me extremely productive and attained more refined and accurate output. Here you go!

[10 Excel Habits, You Must Develop]

Tip #6 : Border Shortcuts



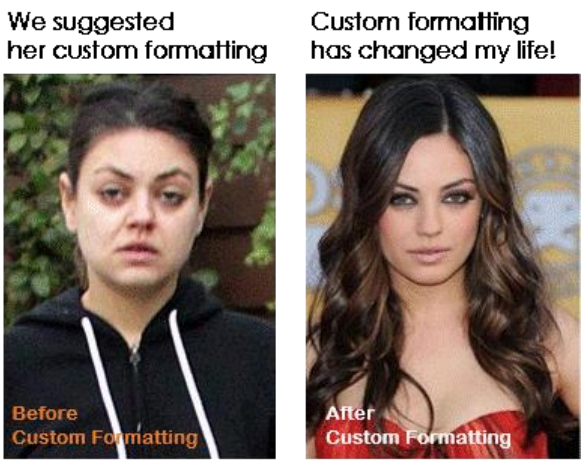
If you are one of those who is into applying borders to almost everything that you do in Excel, then you are going to fall in love with these shortcuts and me of course!

Here are a few [Exclusive Border Shortcuts in Excel]

Section 2

Kickass Formatting Tips

Tip #7 : Custom Formatting


We suggested her custom formatting
Custom formatting has changed my life!
Before Custom Formatting
After Custom Formatting

This picture speaks miles about what we are going to discuss.

Get your eyes off the picture and lets get started .. shall we? I think the best way to start is to tell you that custom formatting does not actually change the underlying data, but only changes the way it looks!

What if you boss asks you to format the following data

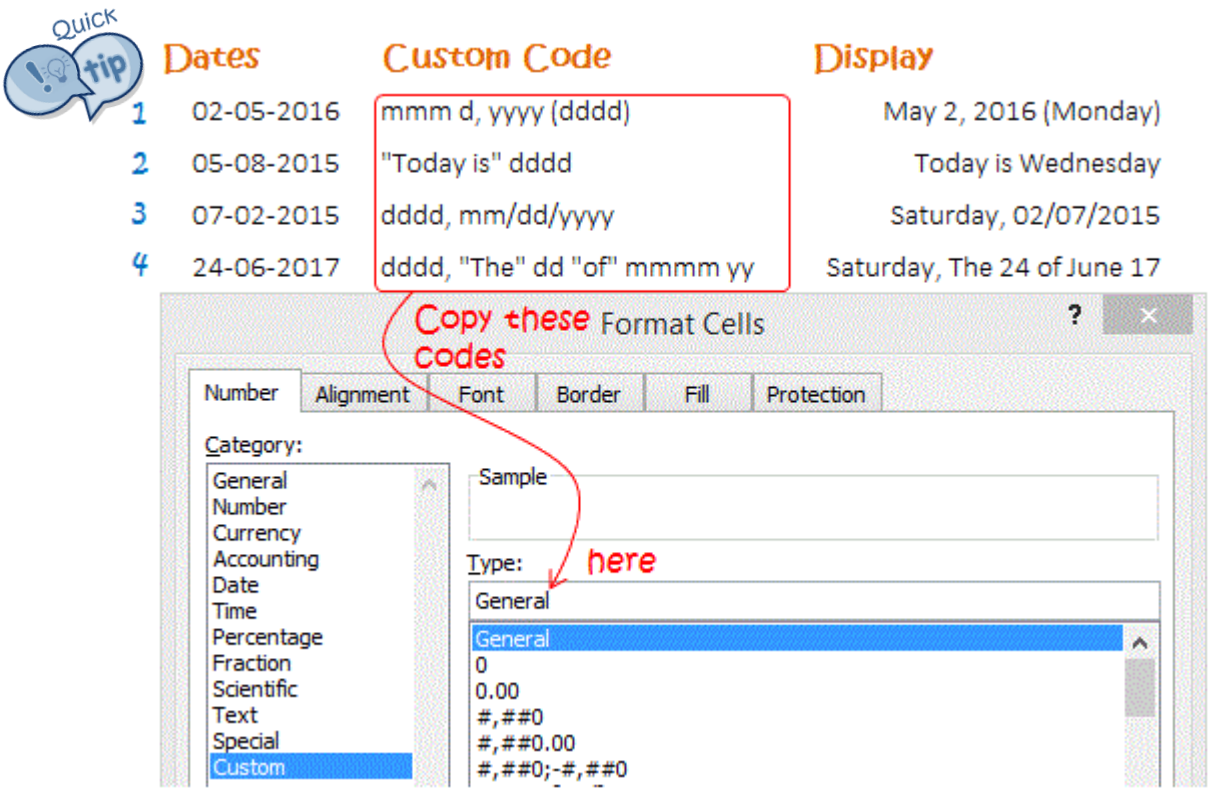
	Jan	Feb	Mar	Apr	May	June
Sales	173	123	197	167	179	101
Profit/Loss	21	-14	31	0	87	-82

1. All the positive sales/profit numbers should appear this way **$ 173.0 Mn**
2. All negative (profit) numbers should appear this way in red color **$ (14.0) Mn**
3. All zeros should be replaced with a hyphen –

How would you do it ?

Learn Custom Formatting in Detail

Tip #8 : 4 Custom number formats



You'll have a better grip on this tip, if you have followed through the previous post. I have given some more details about date formatting here [4 Quick Custom Formats for Dates]

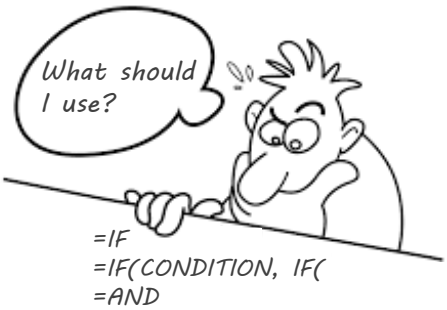
Tip #9 : Beauty Tips for your Excel Reports

If you tired of making obsolete looking Dashboards/Reports then I have 6 awesome (and equally simple) make over tips for you.
We won't go overboard in decking up our report until it looks horrible and meaning less but just enough to make it classy and beautiful!
Read all the tips here - [6 Beauty Tips for your Excel Reports]

Section 3

Formulas for Everyday Work

Tip #10 : Where to use to IF, Nested IF and AND Functions



Here is a simple way to find out which one is the most appropriate logical statement under different scenarios

- **Use IF** : When you have a single condition to test

- **Use Nested IF (if inside another if)** : When you have 2 conditions to test but one condition is subsequent to other
  For eg =IF(Sales < 80% of Target , IF(Attendance>75%, 10% Bonus, No Bonus), 15% Bonus)
  In the above example, If the person has achieved less than 80% of target sales only then it checks for attendance i.e. attendance condition is subsequent to sales target condition

- **Use AND** : When you have 2 conditions to test at the same time
  For eg =IF(AND(Sales < 80% of Target , Attendance>75%), 15% Bonus, No Bonus)
  In the above example the person has to meet sales and attendance targets to get the bonus. Then I surround the AND statement in the IF statement to give out bonus or no bonus

Tip #11 : Replace IF with MIN / MAX Functions

Take a look at a creative way to solve the IF problem without using IF. In this case we pay a 10% interest only if there is Debt on the company

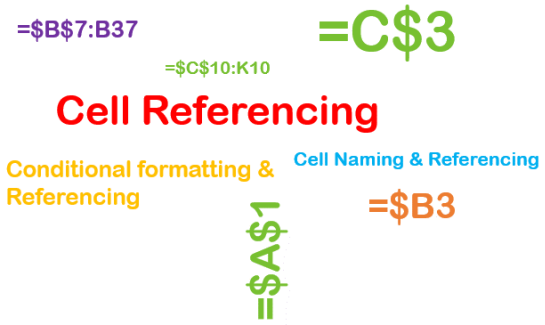
Year	Debt	IF Statement
2010	0	=IF(H12=0,0,H12*10%)
2011	126	12.6
2012	0	0
2013	115	11.5

Long approach using IF

Year	Debt	MAX
2010	0	=MAX(H18,0)*10%
2011	126	12.6
2012	0	0
2013	115	11.5

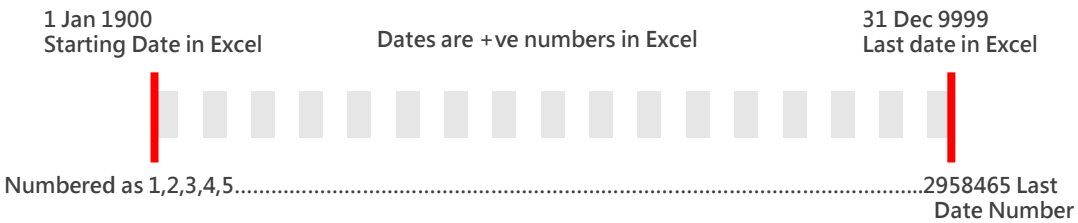
Smart approach using MAX Statement

Tip #12 : Cell Referencing Tricks



As you delve deeper into excel formulas you have to be insanely good at Cell referencing. Cell referencing helps you write robust excel formulas and help you save you a ton of time. Read about cell referencing in detail here – Cell Referencing in Excel (A must read)

Tip #13 : Interesting Facts about Dates


1 Jan 1900
Starting Date in Excel
Dates are +ve numbers in Excel
31 Dec 9999
Last date in Excel
Numbered as 1,2,3,4,5.....2958465 Last Date Number

The excel calendar begins on 1st Jan 1900. Excel has represented every date with a number so 1st Jan 1900 is stored as the number 1 in Excel's memory, 2nd Jan 1900 is stored as the number 2 and so on... Excel has stretched the calendar till 31st-Dec-9999, numbered as 2958465 (I am not sure if we are going to go that far in any sort of calculations, at-least I have not)

Quick Check

1. Type 1 in any cell
2. Covert that into a date format by pressing CTRL SHIFT 3
3. Now check the date (in the formula bar)
4. Isn't that 1 Jan 1900?

Tip #14 : Enter Today's Date with a Shortcut

Use the shortcut **CTRL ;** (colon) to enter today's date. The date input is a fixed value and won't change to the next date if you re open the same workbook the next day

Tip #15 : Enter Today's Date with a Formula

Use the formula **=TODAY()** to enter today's date. The date input is a dynamic and will change to the next date if you re open the same workbook the next day

Tip #16 : Time Stamp Problem and Circular Referencing in Formulas

Lets say we need a time stamp against every data entered but the condition is that once the time is stamped against the data it cannot be changed.

Names	Time Stamp
Chandeep	17:10
Rohan	17:11

We would use a simple IF formula for this but with a new concept called Circular Referencing

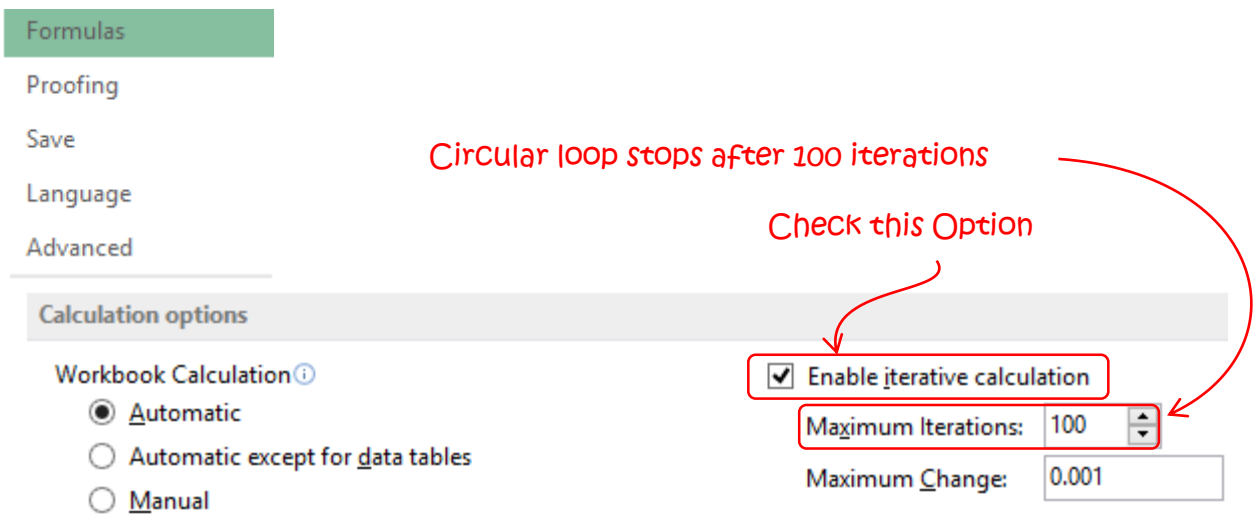
Introducing Circular Referencing – One or more cell references in a circular formula circles back to itself. For example.. IF you type the following in Cell A10

=IF(A10<1000, A10+1, A10) → It is a Circular Formula

Each time we run the formula (pressing F9) the value in A10 will goes up by 1.

Setting Iterations for Circular Formulas – Although the formula is made in such a way that it will increase the value by 1 each time but the number of iterations that are set in excel settings for circular formulas can change the result.

Turning ON Iterative calculations - Excel Options (Alt > F > T) > Formulas > Check Iterative Calculations



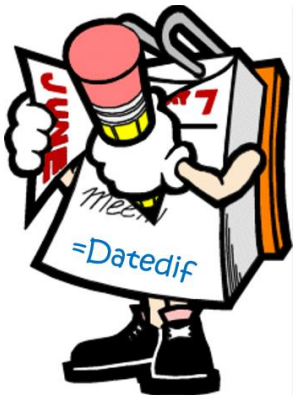
Now that we have understood circular referencing, let's make a circular referencing formula. Be sure to turn ON circular referencing

Names	Time Stamp
Chandeep	17:10
Rohan	17:11
	=IF(B9<>"",IF(C9="",NOW()+2,C9),"")

The IF Formula is checking IF

1. Cell B9 is empty if it is Empty then it gives nothing
2. If not empty then it checks IF cell C9 is empty (here the circular referencing starts)
3. If cell C9 is empty then it enters the current time and date using NOW function else gives the value of C9

Tip #17 : DATEDIF Function to calculate between 2 dates

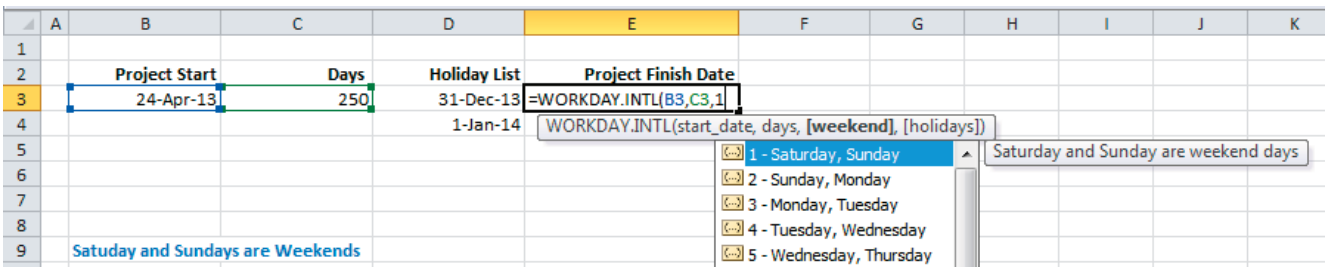


Somethings just stay evergreen, just like the DATEDIF function! Back in day (days of Excel 2003) it used to be a stud amongst the Date Functions and it has not lost its sheen till date but the newer versions of excel (2007 and above) have stopped giving any help or guidance with this function

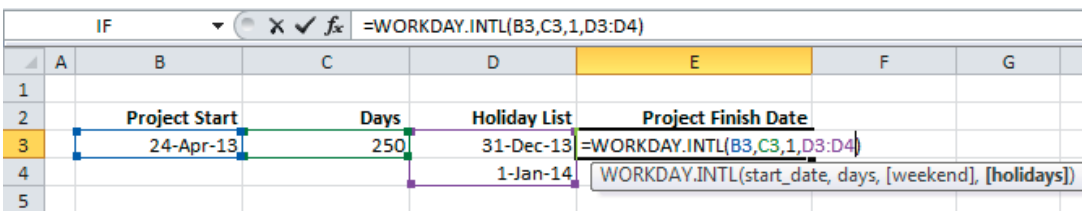
What it does: It returns the difference between two date values in either days, months, years or some other mixed formats. Since there is no screen guidance available when you type =DATEDIF you'd have to learn the syntax.
Learn the DATEDIF Function here

Tip #18 : WORKDAY.INTL & NETWORKDAYS.INTL functions to factor in holidays & weekends

Syntax: WORKDAY.INTL(start_date, days, [weekend], [holidays])
How does it work: This function is very powerful for professionals in project management. This function will return the next working day from a specific start date, taking care of weekends and holidays in between. Lets understand the syntax
1. **Start_date** – This is the start date from where you want to start counting the number of working days
2. **Days** - This is the number of days you want ahead of the start date
3. **Weekends** – Excel gives you a help in order to choose your weekend pattern. For example if you specified 1 i.e.. Saturday & Sunday or if you specified 2 i.e.. Sunday & Monday and so on. You can omit this input, excel automatically considers Saturday & Sunday as default options
4. **Holidays** – These are the list of holidays (apart from Weekends) that you may want to specify. Excel will automatically adjust in case of any overlap between holidays and weekends.



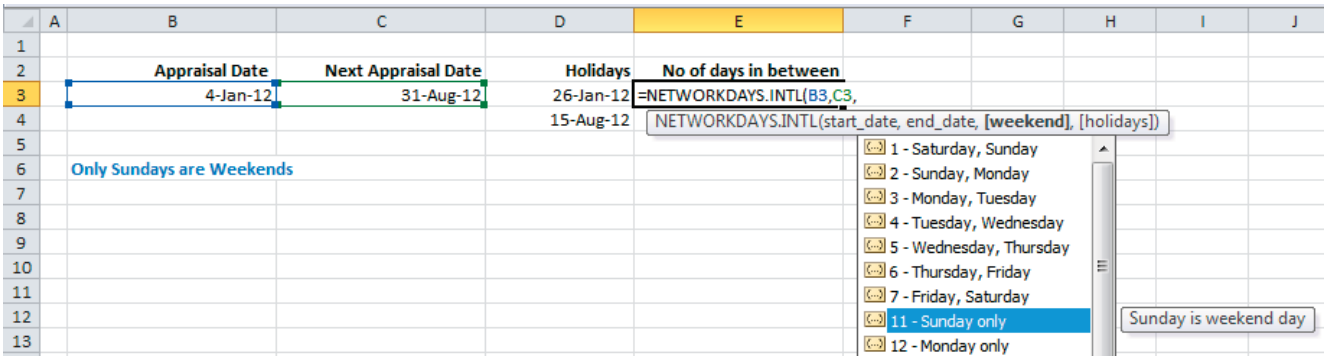
In the above example, we first linked the project start date as our Start_date and we linked the number of days as 250. As soon as we move to the 3rd input excel drops down an automatic help for selecting the weekend. Here we have chosen 1 for selecting Saturday and Sunday as weekends



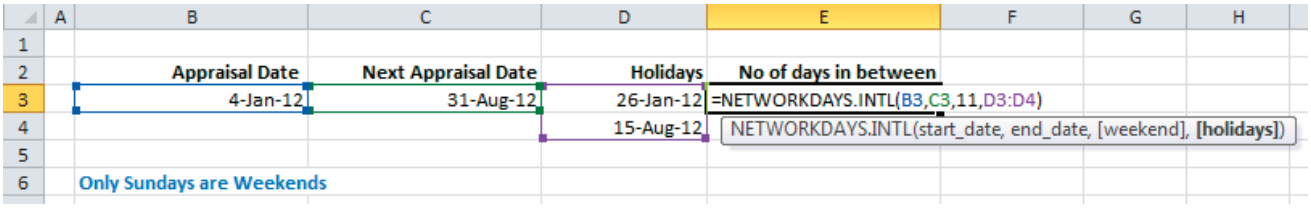
As a last part of the input choose the range where you have specified the list of holidays. Here the result is 11 April 2014 that means that after considering 250 working days (excluding Saturday, Sundays and Holidays) the project will end on 11 April 2014

Tip #19 : WORKDAY.INTL & NETWORKDAYS.INTL functions to factor in holidays & Weekends Continued..

Syntax: NETWORKDAYS.INTL(start_date, end_date, [weekend], [holidays])
How does it work: This function is the exact opposite of the WORKDAY.INTL function it calculates the number of days between 2 dates taking care of weekends and holidays. Since the syntax is pretty similar to the WORKDAY.INTL function lets look at a comprehensive example to understand this better



Just like the earlier example, we first linked the appraisal start date as our Start_date and linked the next appraisal date as our end_date. As soon as we move to the 3rd input, excel drops down an automatic help for selecting the weekend. Here we have chosen 11 for selecting only Sunday as weekends



In the last input choose the range where you have specified the list of holidays. Here the result is 205 that means that next appraisal date will come after 205 working days (excluding Sundays and Holidays)

Tip #20 : Generating Serial Numbers with a Formula

SNo	Emp ID	City	Dept
	EMPID 841	Taipei	Corporate Finance
	EMPID 21282	Munich	Security
	EMPID 30366	Brussels	Human Resources
	EMPID 1046	Boston	Operations
	EMPID 27721	Melbourne	Corporate Finance
	EMPID 36456	Prague	Security
	EMPID 13793	Bangkok	Human Resources
	EMPID 22004	New Delhi	Accounting
	EMPID 16654	Chicago	Security
	EMPID 33757	Melbourne	Sales
	EMPID 1143	Paris	Engineering
	EMPID 1647	Kuala Lumpur	Corporate Finance
	EMPID 35349	Paris	Operations
	EMPID 22229	Bangkok	Corporate Finance
	EMPID 11403	Mumbai	Operations
	EMPID 8221	Prague	Retail Operations
	EMPID 37379	Dubai	Operations
	EMPID 35435	Singapore	Engineering
	EMPID 26874	Singapore	Retail Operations
	EMPID 20886	Miami	Sales
	EMPID 7952	Munich	Engineering

Here is a Quick Tip to generate serial numbers

Tip #21 : Trim Spaces and Ghost Spaces between your text

If you have been using the Trim function for a while to delete the extra spaces between your text, you may have encountered that sometimes the TRIM just doesn't work!

Take a complete heads down on the TRIM Function and what to do when TRIM function does not work

TRIM Function Workings and When TRIM function Fails to detect ghost spaces

Tip #22 : Formula Auditing Techniques

To Err is to Human and to correct that err is to audit your formulas. In this article I talk about how can we effectively audit our formulas in different ways.

I have 5 smart tricks here which you can use for various needs!

1. Auditing with F2 Key - This is the most basic type of auditing but works a treat. All you need to do is to press the F2 key to see which cells are linked to your formulas (linking is shown by color coding). The formula bar also shows your formulas but one can't really make a head and tail out of it (since it shows no linking)

Year	2001	2002	2003	2004	2005
Sales	305	245	402	360	279
Cost	292	223	393	374	342
Profit	=C3-C4	22	9	-14	-63

Read the rest 4 Formula Auditing techniques

Tip #23 : How to avoid errors in your Excel Formulas

Use **=IFERROR(Formula, Value if Error)** to prevent a calculation from returning any error. For example

• To prevent DIV/0 errors:
=IFERROR(D2/C2,0)

• To prevent #N/A in the Lookup Formula:
=IFERROR(VLOOKUP(...),"Not Found")

Tip #24 : Clubbing Worksheets in Formulas

Sum Cell A10 on worksheets Mon to Fri =SUM(Mon:Fri!A10). If the worksheet name contains a space or other special character, use apostrophes: =SUM('Jan 14: Dec 14'!C5). Note that the sum will function will consider all worksheets between Mon and Fri

Tip #25 : Important Rounding off Formulas

Result	Formula
• Round to 2 decimals	=ROUND(A2,2)
• Round to 100's	=ROUND(A2,-2)
• Round to nearest 25	=MROUND(A2,25)
• Round up next 1	=CEILING(A2,1)
• Round up to next 100	=CEILING(A2,100)
• Round down to 10	=FLOOR(A2,10)
• Strip off decimals	=INT(A2)
• Keep only decimals	=MOD(A2,1)

Tip #26 : Important DATE Formulas

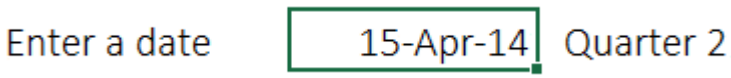
Result	Formula
• End of Month	=EOMONTH(A2,0)
• End of Last Month	=EOMONTH(A2,-1)
• First of Month	=EOMONTH(A2,-1)+1
• First day of current Week	=TODAY()-WEEKDAY(TODAY(),3)
• Today's Date	=TODAY()
• Current Time	=NOW()-TODAY()
• Year of a date	=YEAR(A2)
• Month of a date	=MONTH(A2)
• Month in text format	=TEXT(A2,"MMM")

*Cell A2 is assumed to contain any Date

Tip #27 : Some Other Useful Functions

Result	Formula
• Metric conversions	=CONVERT(A2,"km","mi")
• Largest Value	=MAX(A2:A99)
• 2nd Largest Value	=LARGE(A2:A99,2)
• Smallest Value	=MIN(A2:A99)
• 3rd Smallest Value	=SMALL(A2:A99,3)
• Random number between 10 & 50	= RANDBETWEEN(10,50)

Tip #28 : How to find Calendar and Indian Quarter of a Date



How would you find out quarters for a given set of dates. For example

- 02-Feb-2014 is the 1st Quarter
- 15-Apr-2013 is the 2nd Quarter
- 27-Aug-2010 is the 3rd Quarter

There are 2 ways to solve this

1. Through VLOOKUP
2. Using some Math Formulas

The problem gets even more interesting when you are asked to find out Indian quarters for the dates as per Indian Financial Year (Apr – Mar). For example

- 02-Feb-2014 is the 4th Quarter
- 15-Apr-2013 is the 1st Quarter
- 27-Aug-2010 is the 2nd Quarter

Read the full post – [How to find quarters for Dates]

Section 4

VLOOKUP Exclusive !

Tip #29 : Comprehensive Guide to VLOOKUP and Tricks

We look up! Ha Ha!

VLOOKUP facts & myths that I have witnessed.. pretty interesting!

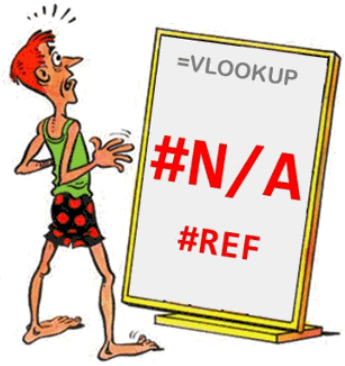
- "Do you know how to apply a VLOOKUP" ? It is one of the most asked questions in the technical round of excel interview. **FACT**
- If one knows how to apply VLOOKUP, he knows advanced Excel or he is the master of Excel – **MYTH**
- VLOOKUP is difficult to learn – **BIG MYTH**
- The TRUE/FALSE input at the end of VLOOKUP is the same and gives you the same result – **MYTH**

Right from basics to being a pro at applying VLOOKUP, I have put down a short guide to help you learn VLOOKUP. No jargons, just plain English!

I have also put together a short video guide for some awesome tricks that you can apply to your VLOOKUP formulas

Comprehensive VLOOKUP Guide and Crazy Tricks (Video)

Tip #30 : Do you suffer from VLOOKUPHOBIA (the fear of applying a VLOOKUP) ?



If you pray to God for making your VLOOKUP work
"**Oh God .. please make this VLOOKUP work ! ! I promise to visit you every week** "

Then you must read this – Suffering from VLOOKUPHOBIA?

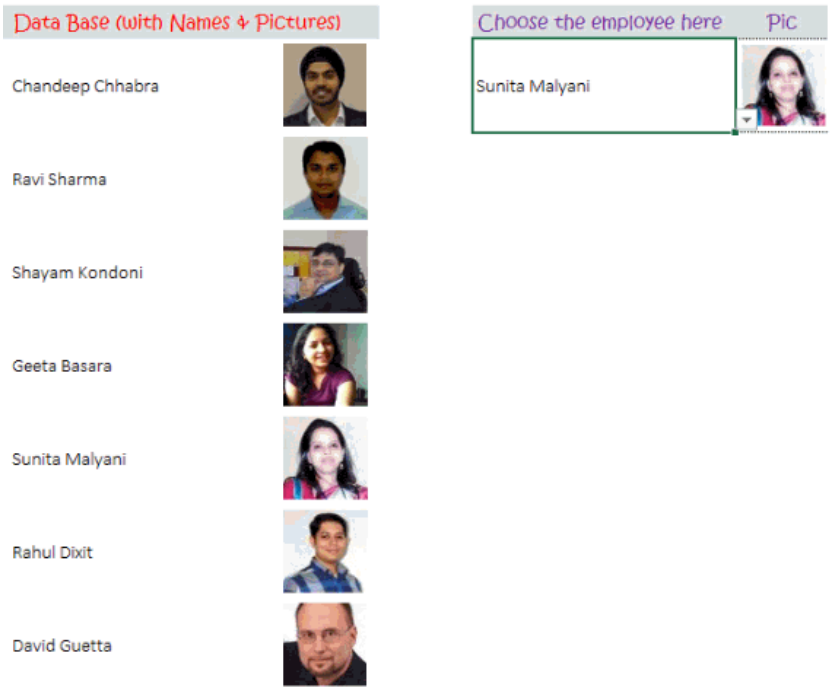
In this post I will rescue you from the top 3 common mistakes while writing VLOOKUP function and save your prayers for more crucial things in life!!

Tip #31 : How to VLOOKUP similar (but not matching) records ?

It is often found in data sets that there are similar records but are not an exact match. How do you perform a VLOOKUP on them?

Learn How to Apply Fuzzy Lookup in Excel

Tip #32 : How to perform a Picture VLOOKUP ?



Looking up pictures can be interesting and can possibly be used in different scenarios. Here is a quick sneak peak into how can you do a Picture VLOOKUP

Section 5

Working With Data

Tip #33 : Make your Filter work faster with Advanced Filter

Contrary to the name "Advanced filter", I think Advanced Filter is more easy to use and offers a great utility than the usual filter in Excel. Make your life simple by using Advanced Filter in Excel

Tip #34 : Make your life even simpler by Automating Advanced Filter using a Macro

Filter Criteria

Date	Sales Rep	Customer	Amount	Region
	Ramesh	MNTL		

Filter Records

Data

Date	Sales Rep	Customer	Amount	Region
06-Jun-07	Varsha	Shyam & Sh	10900	East
17-Nov-07	Veronica	MNTL	13050	West
06-Jul-05	Ramesh	Sharma & C	12300	West
06-Nov-06	James	Sharma & C	10400	South
21-Mar-08	Rajat	White Asso	14200	South
16-Jun-05	Varsha	Shyam & Sh	10450	South

Date	Sales Rep	Custome
04-Nov-06	Ramesh	MNTL
28-Sep-07	Ramesh	MNTL
12-May-08	Ramesh	MNTL

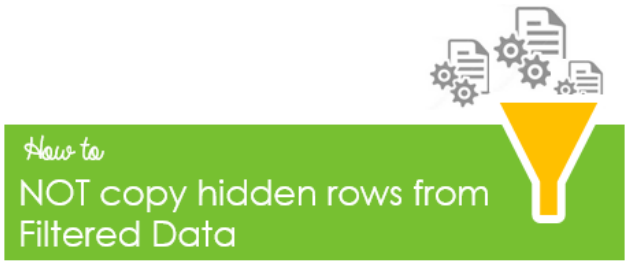
Here is a quick guide (a short macro code) to automate your advanced filter. Automate Advanced Filter

Tip #35 : How to Filter Pictures in your Data ?

Products	Pictures	Model
PenDrives		Model YY
Laptops		Model X1
Cameras		Model OP09
Laptops		Model XX23
PenDrives		Model FR87
Laptops		Model FR45

Have you thought or faced a problem while filtering pictures in your data set? The solution is insanely simple How to Filter Pictures

Tip #36 : How to NOT Copy hidden rows from Filtered Data



Often the hidden rows also get copied when you copy the filtered data and paste it to the desired location. To fix this problem all it takes is one additional step and 5 sorry 2 seconds extra than the normal copy paste of the filtered data. Learn How NOT to copy hidden rows from Filtered Data

Tip #37 : How to inverse your Data

Month	Sales
Jan	100
Feb	120
Mar	133
Apr	190
May	176
June	155

Month	Sales
June	155
May	176
Apr	190
Mar	133
Feb	120
Jan	100

Have you ever had a situation where you wanted to inverse the order of your data? .. If yes then this is just for YOU! You can do it with a simple Excel Formula How to Inverse your data?

Tip #38 : Add Multiple Data sets to your Pivot Table with Data Model

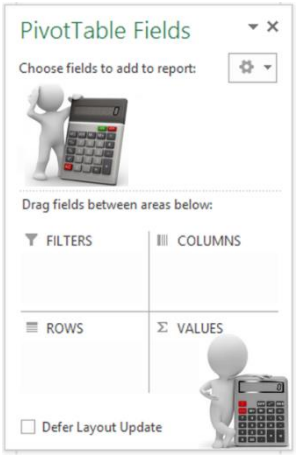
With Data Model you can put your Pivot Table on steroids!

A data model (Excel 2013 feature) can link multiple data sets (converted into tables) and make a single pivot table.

It additionally has a few new formulas for advanced analysis.. let's not just talk about it but experience it!! Ready for the steroid ?

Read Data Models in Excel 2013
(If you want to become an advanced Pivot Table user, It is a must read !)

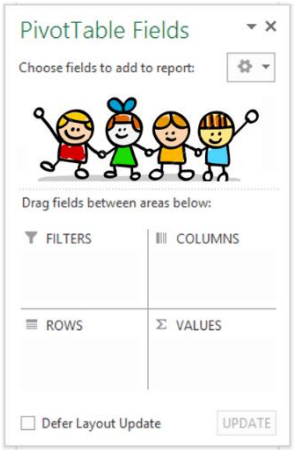
Tip #39 : Do customized calculations by adding Calculated Fields in Pivot Tables



One of the less known and extremely awesome feature of Pivot Tables is its ability to create calculated fields with in the Pivot Table. This makes your Pivot Table calculations more versatile

Take a look at a Case Study on How to Add Calculated Fields in Pivot Tables

Tip #40 : Convert Dates in Quarters, Months or Years by Grouping feature in Pivot



The Grouping feature is a pretty awesome (and incredibly quick) technique to do time series (quarters, years, months or more types of) analysis with a couple of clicks. Also (over the years) I have realized that a lot of people don't know about this. Nothing better than if you know it

Take a dive into – Grouping Feature in Pivot Tables

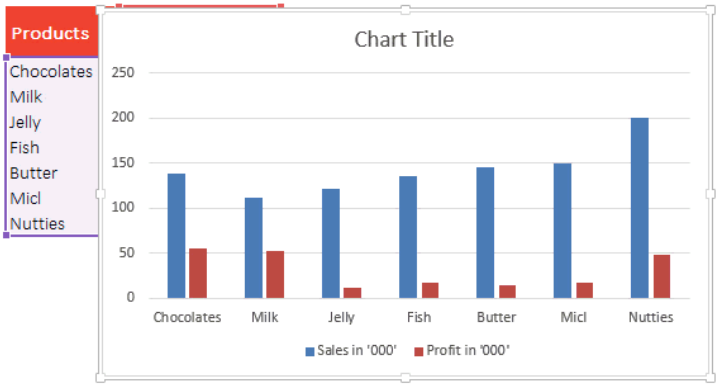
Tip #41 : How to Turn off the GETPIVOTDATA Function

GETPIVOTDATA can be quite irritating at times when you are trying to link a cell in the Pivot Table Here is a quick way to turn it off. Turn off GETPIVOTDATA

Section 6

Advanced Charting Tips & Visualizations

Tip #42 : Draw a Chart in 1 keystroke

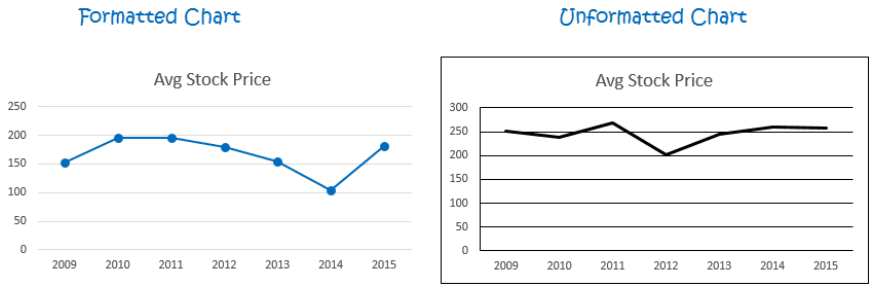


How to Draw the chart in 1 key stroke ?

Tip #43 : Learn the Basics of Charting in Excel

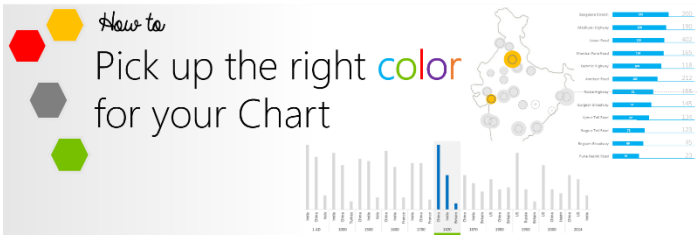
1. Chart Types and How to create a Chart ? – Charting Basics Part 1
2. Adding / Editing data to your charts & How to work with different chart elements – Charting Basics Part 2
3. Chart Formatting Essentials – Charting Basics Part 3

Tip #44 : A Quick Chart formatting Tip



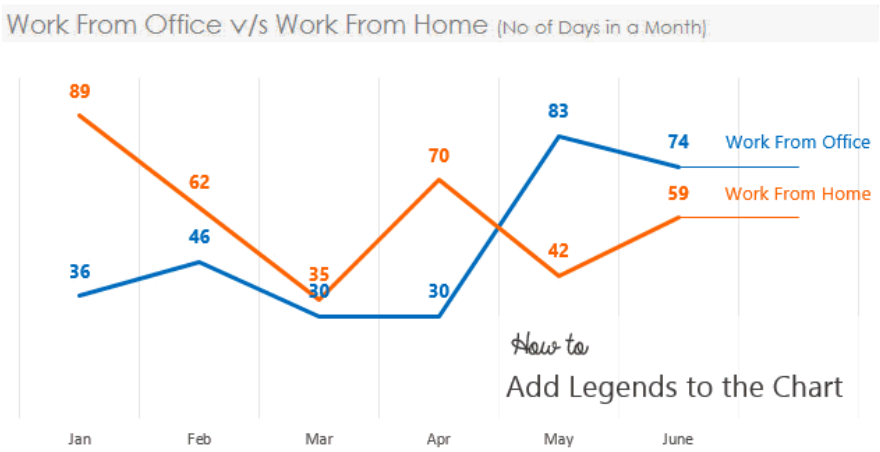
Learn how to quickly replicate formatting to Raw Chart. Quick Chart Formatting Tip

Tip #45 : How to Pick the right color for your Chart



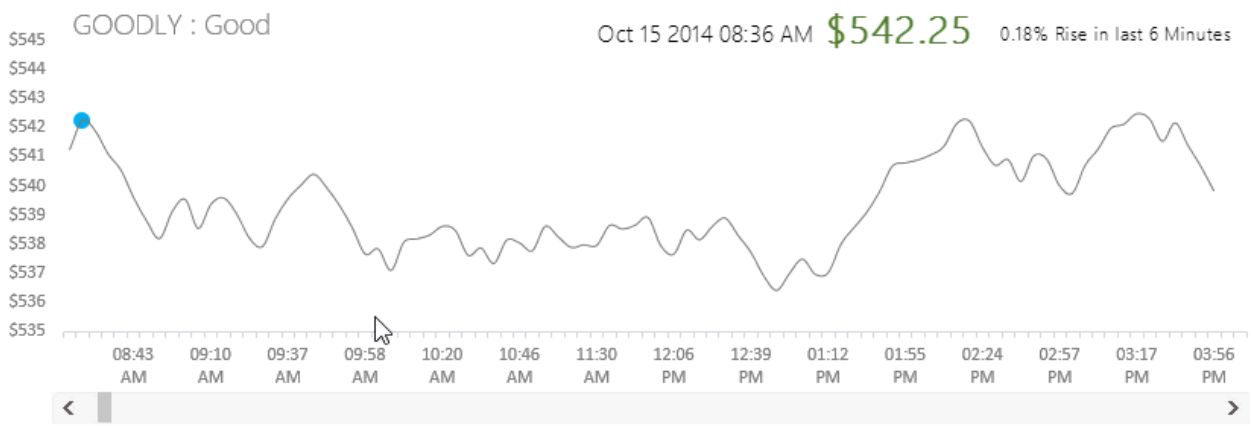
If you struggle to get the right mix of colors for your charts and visualizations? This one is for you. Unfortunately Microsoft's standard color selection is too lame to get it right the first time.
I am including in here as much as I know about colors and the techniques that have worked pretty well for me to make my charts communicate effectively. Here you go - [How to pick up right color for your Charts]

Tip #46 : How to add Direct Legends to the Charts



When you are dealing with multiple series of data, especially in a line chart, it may become difficult to match the line color with the legend. The quick solution is to add the legend at the end of the line chart. Here is how you do it – [How to add Direct Legends to the Charts]

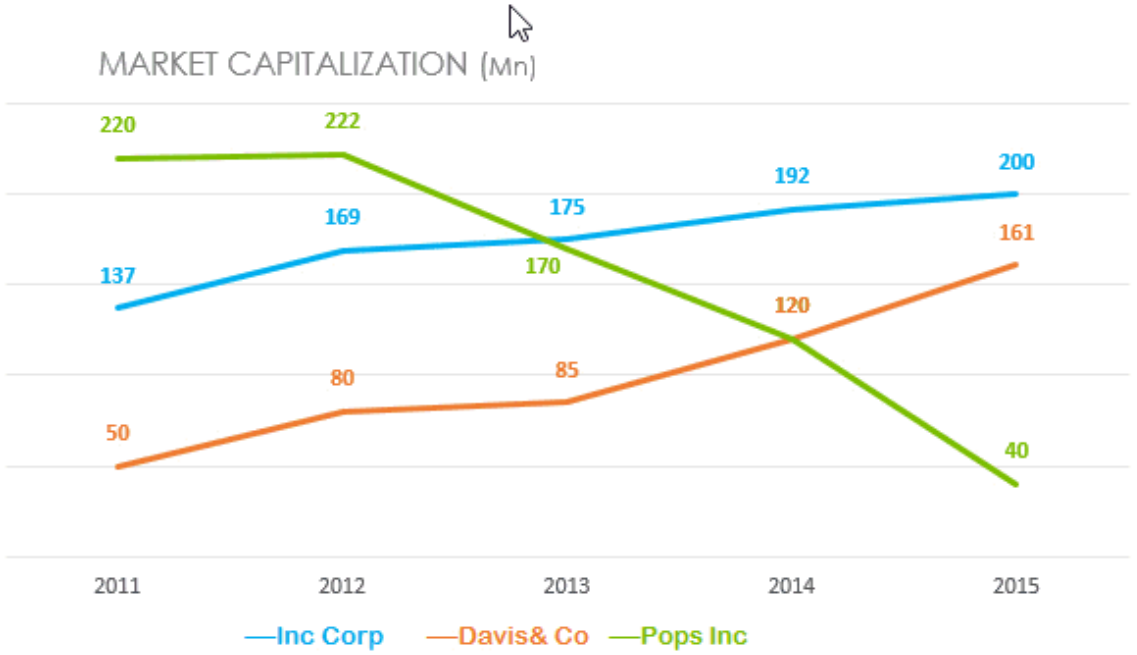
Tip #47 : How to make a Dynamic Stock Ticker Chart



You would have seen this Chart numerous times if look at stock prices. Can we draw it in Excel? Of course we can – [Presenting the Stock Ticker Chart] for you!

Tip #48 : How to make a Check Button Chart

Company	2011	2012	2013	2014	2015
☑ Inc Corp	137	169	175	192	200
☑ Davis& Co	50	80	85	120	161
☑ Pops Inc	220	222	170	120	40



A check button chart is extremely helpful when you want to give the user the choice of what she wants to display in the chart and it looks equally sexy. All it takes is a bit of logic and a simple set of procedures to follow. Learn to Make a Check Button Chart (A must learn chart technique to make your boss happy!)

Tip #49 : Sparkline Charts

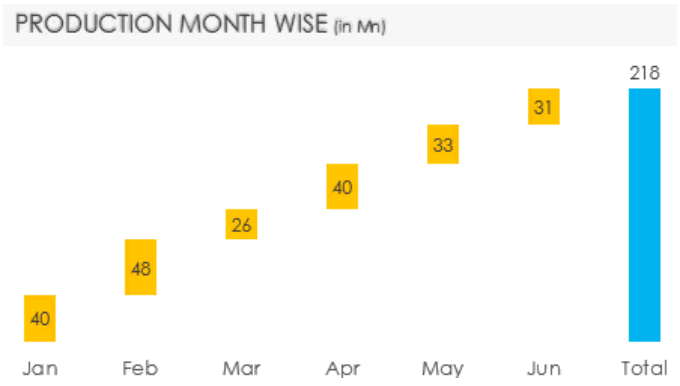
Sales	2001	2002	2003	2004	2005
Jan	293	258	832	801	901
Feb	728	966	947	233	490
Mar	908	580	201	205	898
Apr	679	310	780	366	671
May	376	920	456	910	288
Jun	969	902	637	378	524
Jul	911	612	923	409	205
Aug	535	541	810	355	774
Sep	638	680	908	900	438
Oct	398	679	999	641	584
Nov	703	627	345	944	752
Dec	968	469	920	643	636

Sparkline Charts

Sparklines in Excel

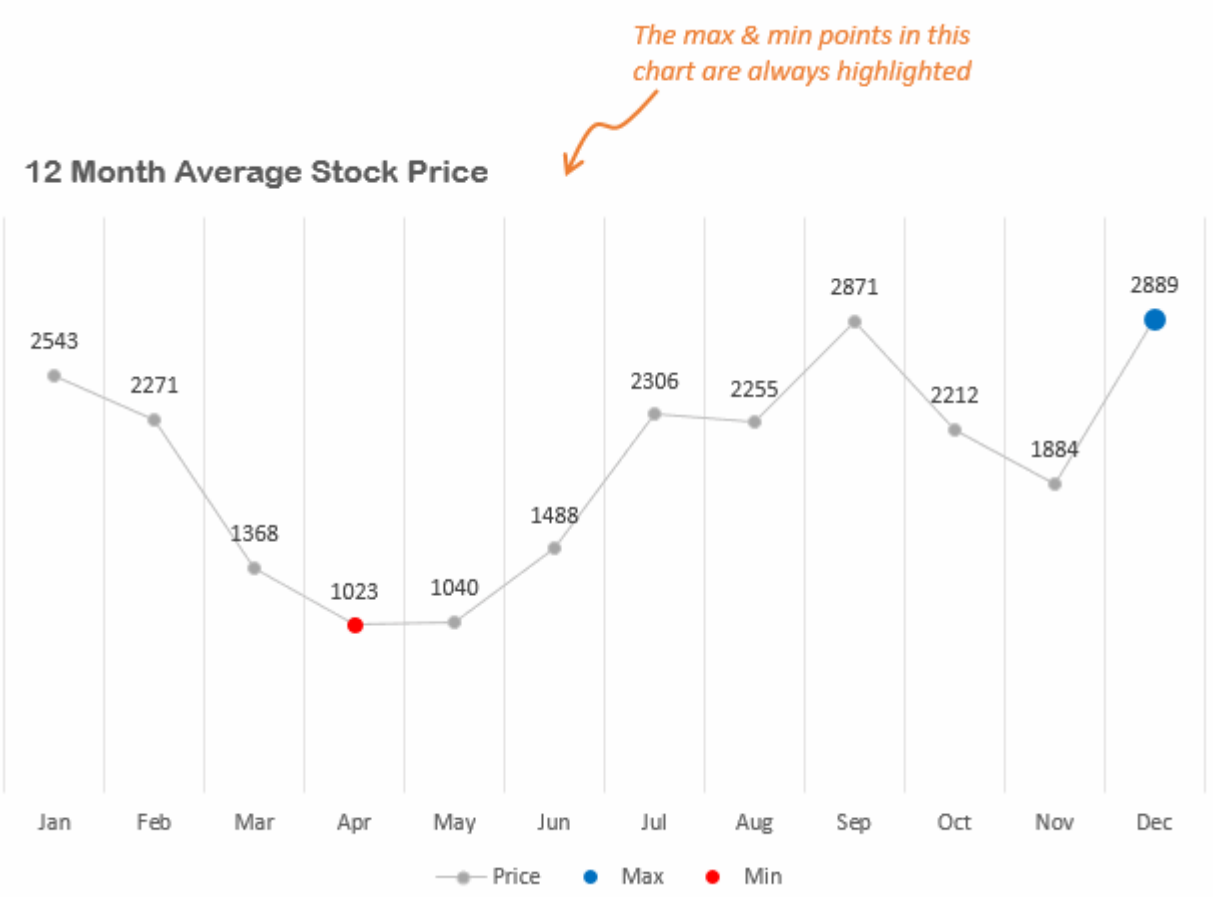
These are cute little compatible charts that fit in one cell. Like the default charts they don't offer deep analysis but are amazing for quick glances and basic insights and the best part is that they are damn easy to create – Sparklines in Excel

Tip #50 : Learn to make the Waterfall Chart



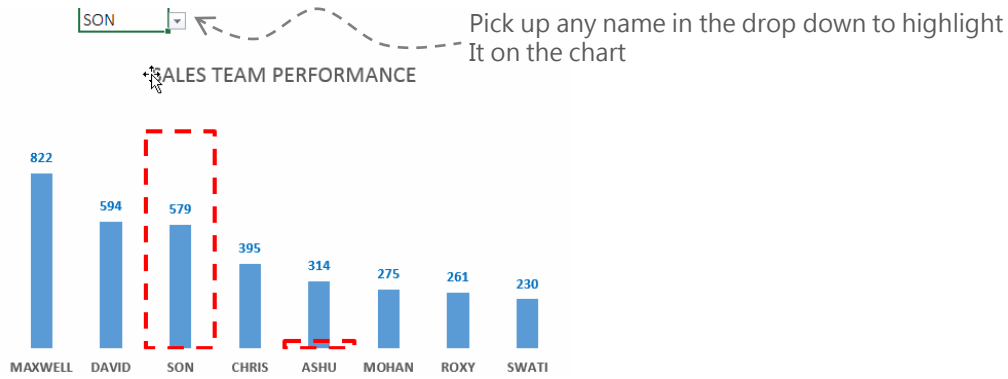
Waterfall Chart (because it looks like a waterfall) is an awesome way to display how things add up to form the total - How to Make a Waterfall Chart

Tip #51 : How to highlight Max and Min Points in your Chart



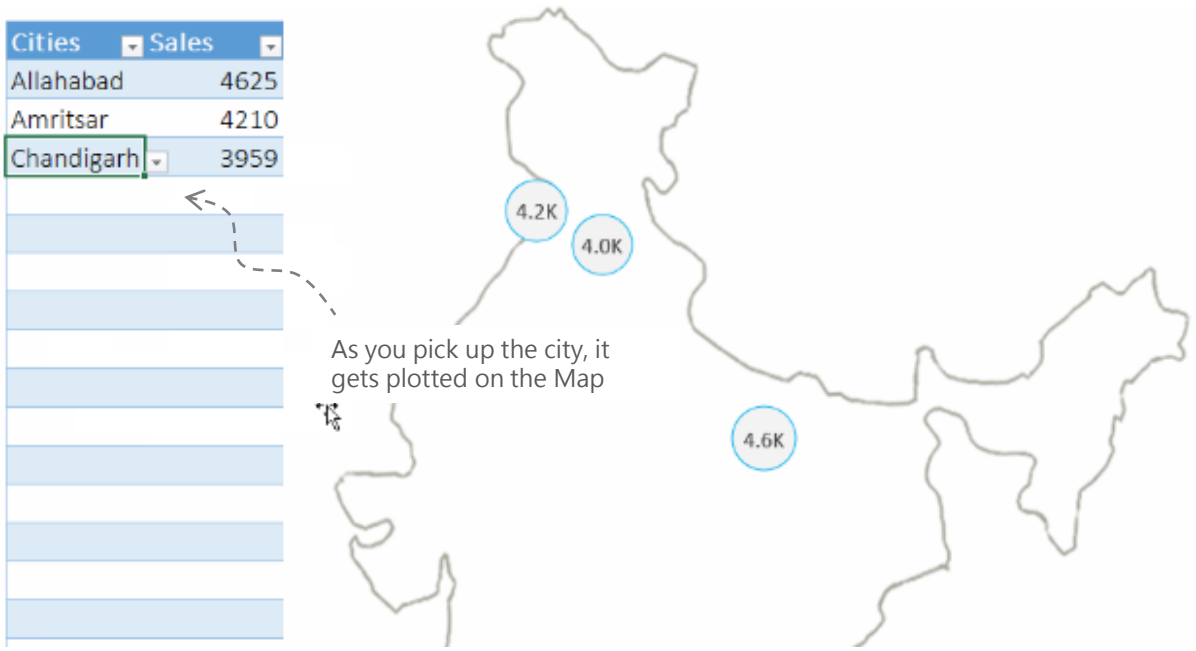
Use this technique in a line chart to dynamically highlight minimum and maximum data points. How to Highlight Max and Min Points in your Chart

Tip #52 : Customize highlighting any data series to focus on specific elements



Here is a chart in which you can pick up which value you want to highlight (dotted border around it). It is pretty simple to build it but looks stunning in your reports and dashboards. [Highlight any data series in your chart]

Tip #53 : How to plot cities on a Map

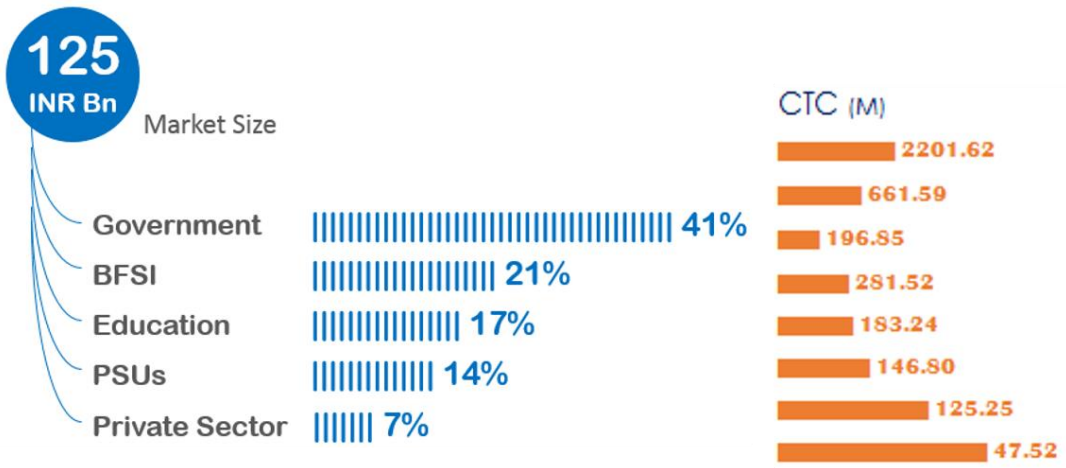


If you have always wondered a chart type where you can plot the city on a map and moreover if that can be possible in Excel? It is right here!
In this post

- I have outlined the detailed working of this chart
- A video
- And downloadable files for your convenience

[How to plot cities on Map using Excel]

Tip #54 : Make Charts with REPT function (quick & easy)



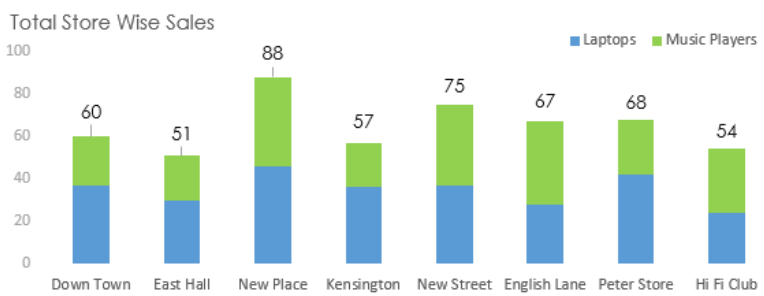
It is so much fun using Excel in diversified ways. You can cleverly use the REPT function to make stunning charts in Excel.. sounds bizarre and interesting? Lets explore this [REPT Function Chart in Excel]

Tip #55 : Scrolling List in Excel

Dept	Designation	DOB
Krishna Carew	Manager	25-May-59
Steve Henegar	Staff	20-Jul-59
Ivelisse Cottman	Officer	15-Aug-59
Ginny Detrick	Officer	02-Sep-59
Yahaira Trundy	Department Manage	12-Sep-59
Leandro Foos	Officer	01-Nov-59
Misty Urich	General Manager	19-Jan-60
Dalene Gebhard	Officer	02-Feb-60
Francoise Glassman	Staff	09-Feb-60
Isaias Farias	Manager	15-Feb-60

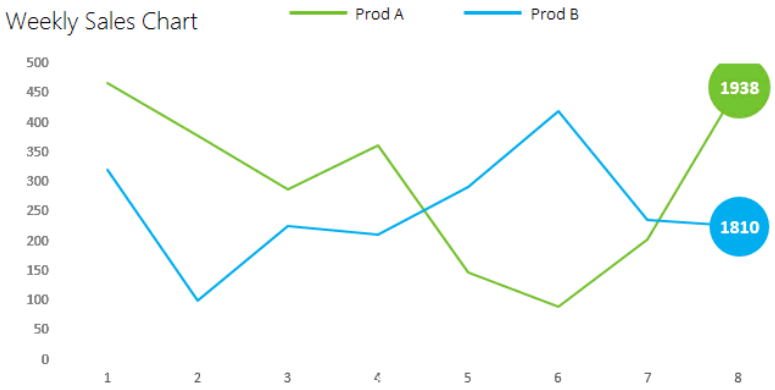
Typically while summarizing your data if you run out of space to display all the information in a single snap shot, here is a powerful method to create a scrolling list from your data set. All it takes is a few minutes to set it up but creates a lasting impression in front of your boss/client.
Learn [How to create a scrolling list in Excel]

Tip #56 : How to add total to stacked column chart



Here is a quick trick to add total label to the stack bar chart. – Check it out [Adding total to Stacked Chart]

Tip #57 : Total at the end of the Line Chart



If you wish to show the total at the end of the line chart, here is a way to dynamically integrate that with your line chart. Show total at the end of the Line Chart

Tip #58 : Camera tool in Excel

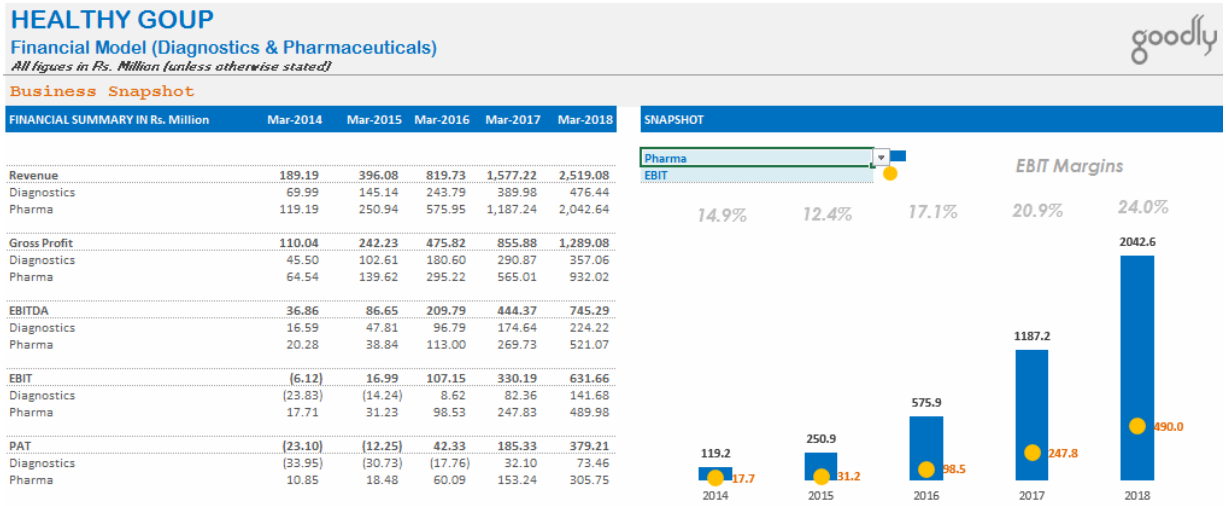
Did you know that Excel has a
50 Megapixel DSLR Camera with
24 -105 mm lens built into it ?

Alright I am kidding with the description of the camera, but excel really has an inbuilt camera tool which can be quite powerful to create dynamic visualizations. Here is everything about the Camera tool in Excel

Section 7

Financial Modeling Tips

Tip #59 : Financial Modelling Getting Started



HEALTHY GOUP

Financial Model (Diagnostics & Pharmaceuticals)

All figures in Rs. Million (unless otherwise stated)

Business Snapshot

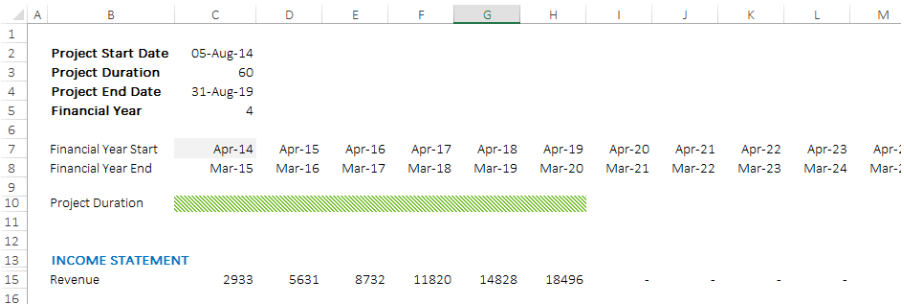
FINANCIAL SUMMARY IN Rs. Million	Mar-2014	Mar-2015	Mar-2016	Mar-2017	Mar-2018
Revenue	189.19	396.08	819.73	1,577.22	2,519.08
Diagnostics	69.99	145.14	243.79	389.98	476.44
Pharma	119.19	250.94	575.95	1,187.24	2,042.64
Gross Profit	110.04	242.23	475.82	855.88	1,289.08
Diagnostics	45.50	102.61	180.60	290.87	357.06
Pharma	64.54	139.62	295.22	565.01	932.02
EBITDA	36.86	86.65	209.79	444.37	745.29
Diagnostics	16.59	47.81	96.79	174.64	224.22
Pharma	20.28	38.84	113.00	269.73	521.07
EBIT	(6.12)	16.99	107.15	330.19	631.66
Diagnostics	(23.83)	(14.24)	8.62	82.36	141.68
Pharma	17.71	31.23	98.53	247.83	489.98
PAT	(23.10)	(12.25)	42.33	185.33	379.21
Diagnostics	(33.95)	(30.73)	(17.76)	32.10	73.46
Pharma	10.85	18.48	60.09	153.24	305.75

If you are a beginner at Financial Modeling and are curious to know about it or even take it up as a profession then I have written a short resource guide on how to get started. I have explained

- What is financial modelling ?
- Types of financial models
- Top blogs and companies that do financial modelling
- Skills that you should acquire for being a pro at financial modelling
- Financial Modeling Skill Matrix (Downloadable file) – How does it shift as you move up the career?

Without further ado - Financial Modeling getting started

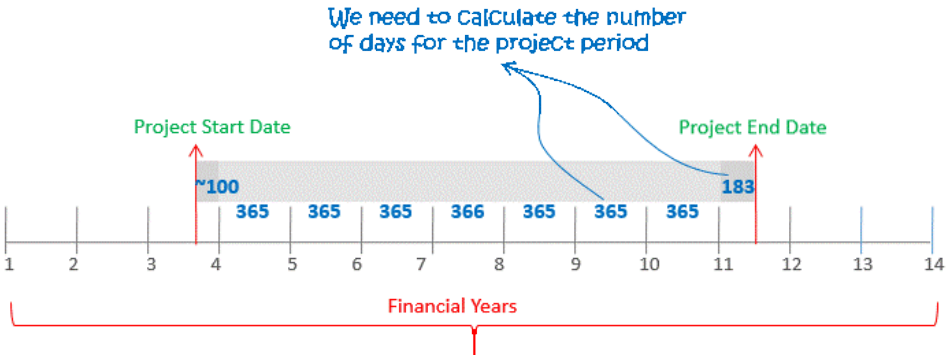
Tip #60 : Time scales in Financial Modeling – Part 1



	Project Start Date	05-Aug-14										
	Project Duration	60										
	Project End Date	31-Aug-19										
	Financial Year	4										
	Financial Year Start	Apr-14	Apr-15	Apr-16	Apr-17	Apr-18	Apr-19	Apr-20	Apr-21	Apr-22	Apr-23	Apr-2
	Financial Year End	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19	Mar-20	Mar-21	Mar-22	Mar-23	Mar-24	Mar-2
	Project Duration											
	INCOME STATEMENT											
	Revenue	2933	5631	8732	11820	14828	18496	-	-	-	-	

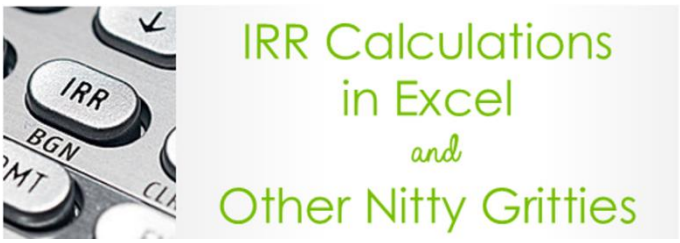
If you are already building financial models (especially project finance models), building time scales is one of best ways to automate your models. These help you manage changes in project timelines and dates very effectively. I have put down a short step by step tutorial to set up a construction time scale for your Model. Time scales in Financial Modeling Part 1 (A must read for financial modellers)

Tip #61 : Time Scales in Financial Modeling Part 2



This post is an extension of the Part 1 post on time scales with the difference being that this one is on building project execution days. Read the entire post here – **Time Scales in Financial Modeling Part 2**

Tip #62 : IRR Calculation in Excel (1st Part)



What is IRR?

A lot of people will give life threating definitions of this concept! Definitions that they themselves hardly understand, let alone using it practically in real life.

If you would like to understand the concept of IRR in a more human way and how it applies to real life you must read this post. I have also charted out different problems associated with using IRR and their workarounds

IRR Part 1 - Part 1 – Contents

1. What is IRR ? (A complex and a simple definition)
2. A Case to explain the concept of IRR
3. How to Calculate IRR (Simple math equation and by using Excel's IRR function)
4. Investing or Not Investing in the Business (Case Analysis)
5. Interpreting Positive and Negative IRR

Tip #63 : IRR Calculation in Excel (2nd Part)

IRR Part 2 – Part 2 Contents

1. 4 problems associated with IRR
2. The XIRR function to handle irregular cash flows
3. Why does IRR change when consolidating annual cash flows from quarterly cash flows ?
4. Why is IRR or XIRR is not a very robust metric ?

Tip #64 : IRR Calculation in Excel (3rd Part)

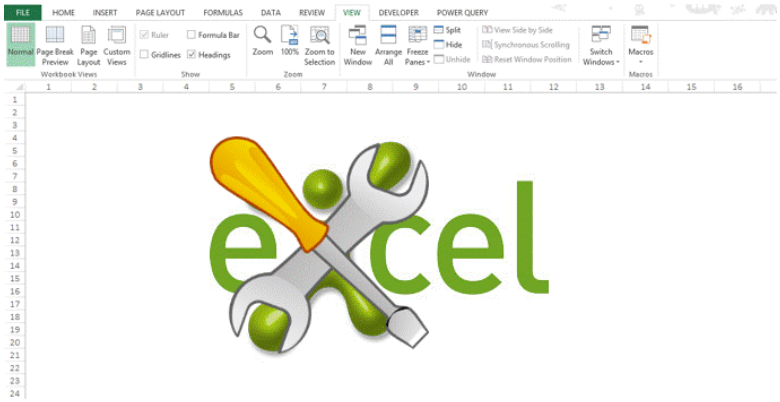
IRR Part 3 – Part 3 Contents

Talks about Excel's MIRR (modified internal rate of return) as a robust alternative to IRR

Section 8

Miscellaneous Utility Tools

Tip #65 : Screen Editing Options in Excel



Excel offers additional capability to change the user interface. In this article I am covering 9 screen editing options that offer the most utility to the user. [9 quick screen editing options in Excel]

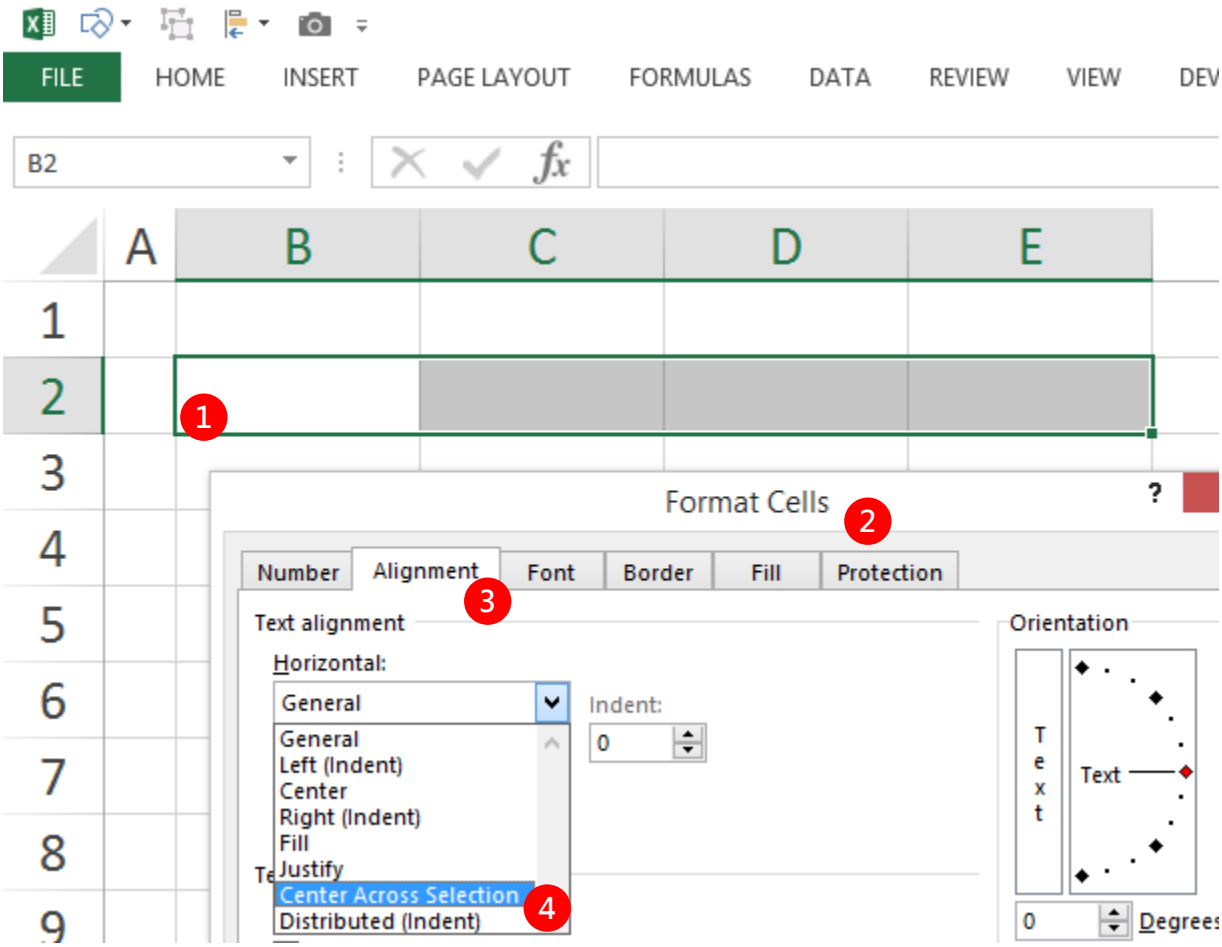
Tip #66 : How Goal Seek Works ?

Goal seek is one of the incredibly simple (& powerful) features of excel. It offers reverse one variable analysis, something like : you know the result that you want but want to back calculate the variables for the desired result. Take a look at a [Case Study for Goal Seek]

Tip #67 : An alternative to merging cells

We often merge the cells for a common headline that has to appear above a set of cells. There is a smart way gives you the merge effect without merging the cells

Center Across Selection



1. Select the cells that you want to merge
2. Open the format cells box (shortcut Ctrl + 1)
3. In the alignment tab
4. Pick Center Across Selection
5. Done!

Now your cells will look like merged but actually the text is aligned to the center of the selected cells

Tip #68 : Hiding Options in Excel

Excel offers quite a bit of hiding options by using them you can hide sheet tabs, ribbons, gridlines and even the data. Here are [9 things you can choose to hide (and unhide) in Excel]

Tip #70 : Protected sheet from being edited

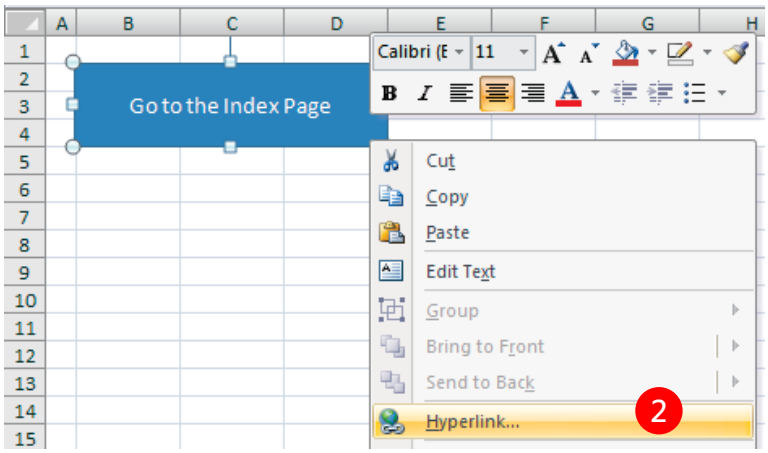
If you wish to guard your sheet from unwanted access, the Protect Sheet feature comes really handy! I have covered this in detail here – [Sheet Protection Options in Excel]

Tip #71 : Hyperlinking Options in Excel

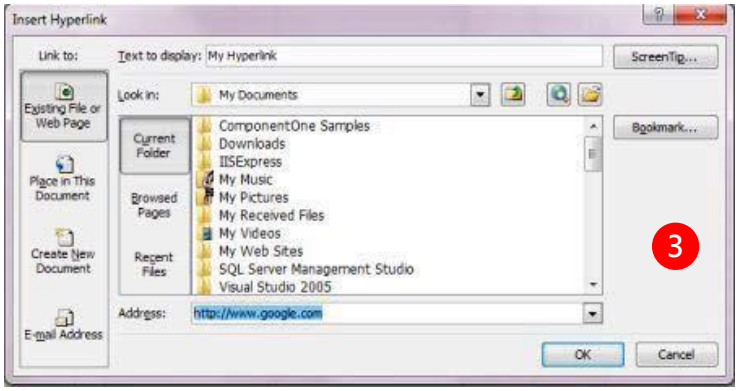
I strongly recommend this utility for making your spreadsheets look more aesthetically appealing. Here is how we do it

1. Click on shapes in the insert column, choose the rectangle tool and draw a rectangle

2. Type a relevant message in the box and then right click on the box to choose the hyperlink option



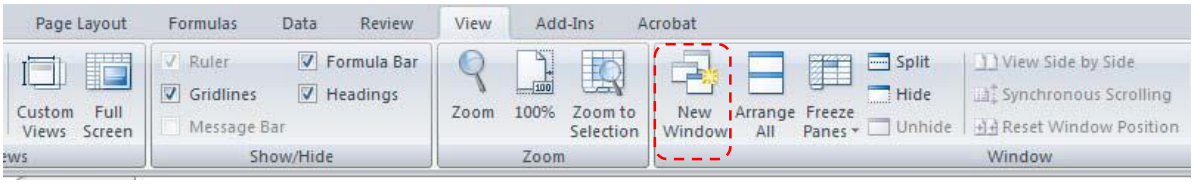
3. The hyperlink dialogue box gives you the option for linking your object (rectangle) to same or any other spreadsheet. You can even choose link a url (a website) to the object. Hyperlinking works on almost anything- Objects, Pictures, Text, SmartArt



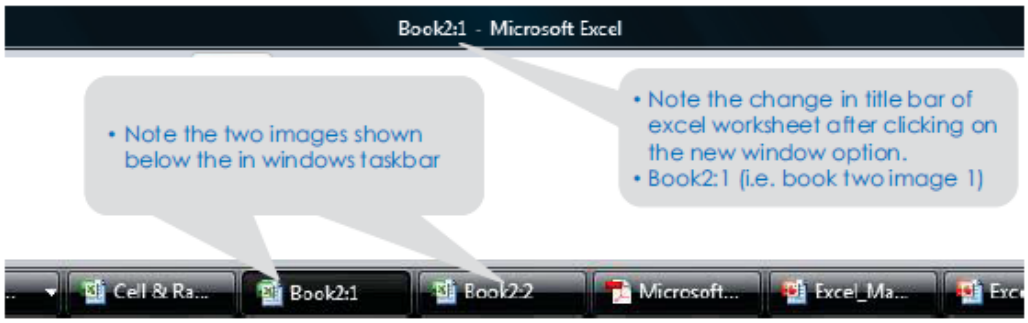
Tip #72 : Open the same Excel file multiple times with New Window Tool

Have you had a chance where you had a to do a lot of to and fro between sheets? If yes then the 'New Window' feature is your saviour! It is an awesome tool for tracking workbooks with too many sheets

1. The New Window option is in the view tab



2. When you click on it, it opens up another image of your workbook in separate window and allows you to refer to the sheets within your workbook from another window


Book2:1 - Microsoft Excel
• Note the two images shown below the in windows taskbar
• Note the change in title bar of excel worksheet after clicking on the new window option.
• Book2:1 (i.e. book two image 1)
Cell & Ra...
Book2:1
Book2:2
Microsoft...
Excel_Ma...

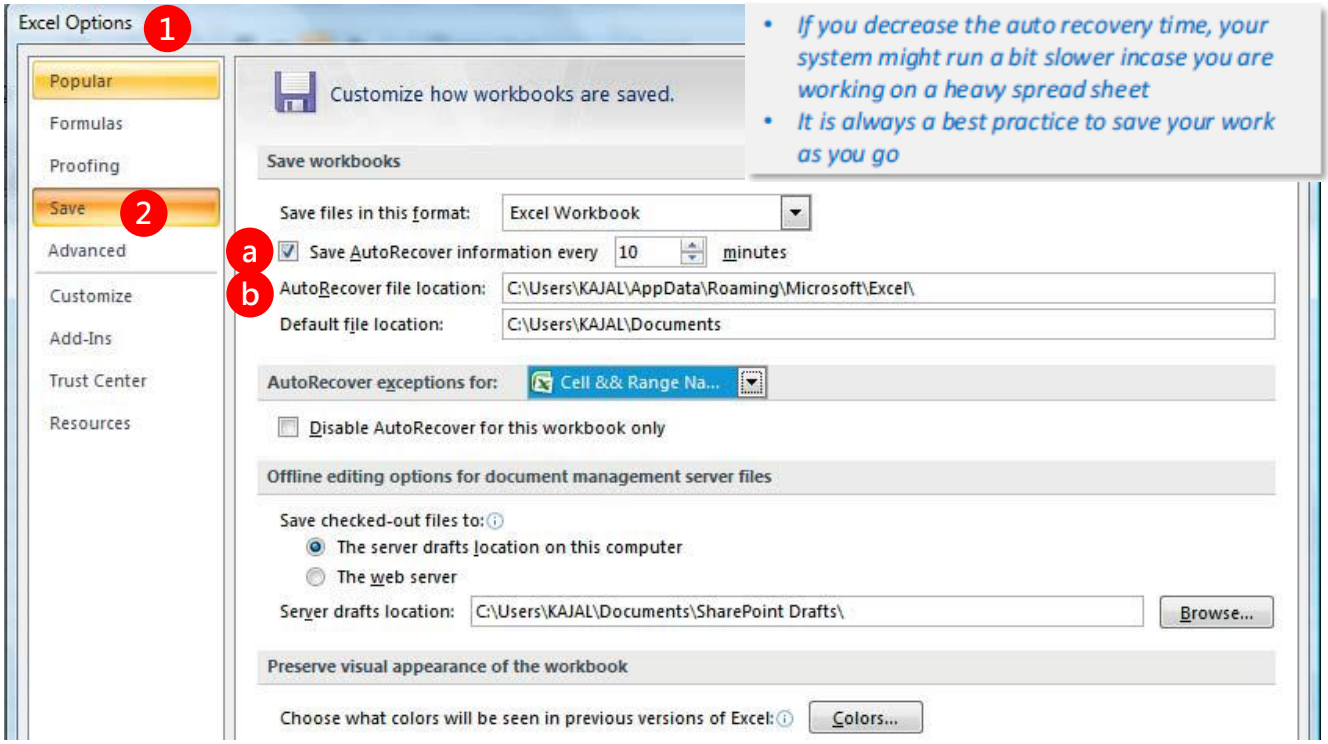
For a single workbook you can open as many new windows as you want

3. Note that the new windows are mirror images and any changes done in the current window are automatically updated in the file
4. This feature helps you compare a workbook with many sheets at one go (by using Alt+tab), rather than navigating to and fro between sheets

Tip #73 : Working on Multiple Sheets

This trick really comes handy when you have to add data / edit multiple sheets at once. Let's just take a look into this, it is quick and easy! How to work on Multiple Sheets at once

Tip #74 : Managing Auto Recovery of lost data


Excel Options
1
Popular
Formulas
Proofing
Save
2
Advanced
Customize
Add-Ins
Trust Center
Resources
Customize how workbooks are saved.
Save workbooks
Save files in this format: Excel Workbook
a
Save AutoRecover information every 10 minutes
b
AutoRecover file location: C:\Users\KAJAL\AppData\Roaming\Microsoft\Excel\
Default file location: C:\Users\KAJAL\Documents
AutoRecover exceptions for: Cell && Range Na...
Disable AutoRecover for this workbook only
Offline editing options for document management server files
Save checked-out files to:
The server drafts location on this computer
The web server
Server drafts location: C:\Users\KAJAL\Documents\SharePoint Drafts\
Browse...
Preserve visual appearance of the workbook
Choose what colors will be seen in previous versions of Excel:
Colors...
If you decrease the auto recovery time, your system might run a bit slower incase you are working on a heavy spread sheet
It is always a best practice to save your work as you go

Excel is smart and saves our work by itself. It creates a back up while we are working on the spread sheet. You can modify the settings to suit your needs. Lets explore this further

1. GO to excel options
    - For Excel 2007- Use the shortcut ALT > F > I (Alternatively you can find it in the Microsoft button menu)
    - For Excel 2010 & above – Use the shortcut ALT > F > T (Alternatively you can find it in the File menu)
2. Click on the Save Tab (on the left) note the 2 options
    a) These allow you to alter the intervals at which the auto save takes place
    b) The default file location is where your auto recover workbook is stored. In case you lose your file, you can pick up the most recent version of your workbook from this location

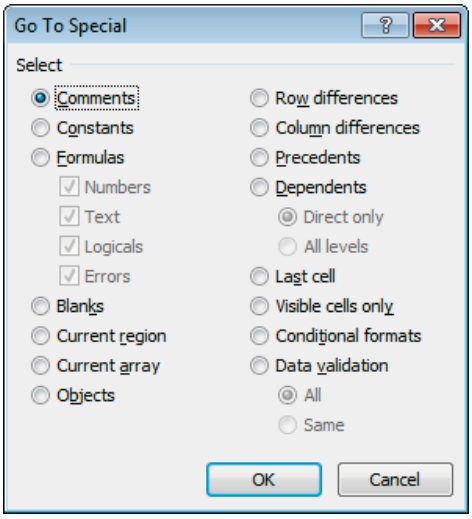
Tip #75 : Select special areas of your workbook by GOTO Special Feature

Go To Special enables you to quickly select cells of a specified type within your spreadsheet. Lets see how it can work wonders for you. Consider the following spreadsheet, note carefully that we have some punched in numbers and some formulas in this sheet.

U29

	A	B	C	D	E	F	G
1		**SALES REPORT**					
2			**Jan**	**Feb**	**Mar**	**Q1**	**Apr**
3			For	For	For	For	For
4		**North**					
5		James Bourne	4521	2863	3802	**11925**	=5498+200
6		Chris Hewitt	3510	4882	3915	**12056**	=4043-200
7		Pat Hill	5213	4557	2187	**10562**	1070
8		Jasmine Hunt	4175	2681	2257	**9112**	3588
9		**="Total "&B4**	**=SUM(C5:C8)**	**=SUM(D5:D8)**	**=SUM(E5:E8)**	**=SUM(F5:F8)**	**=SUM(G5:G8)**

1. Open the GO TO Special Feature – Use the Shortcut (function F5 key or CTRL + G) and then click on Special

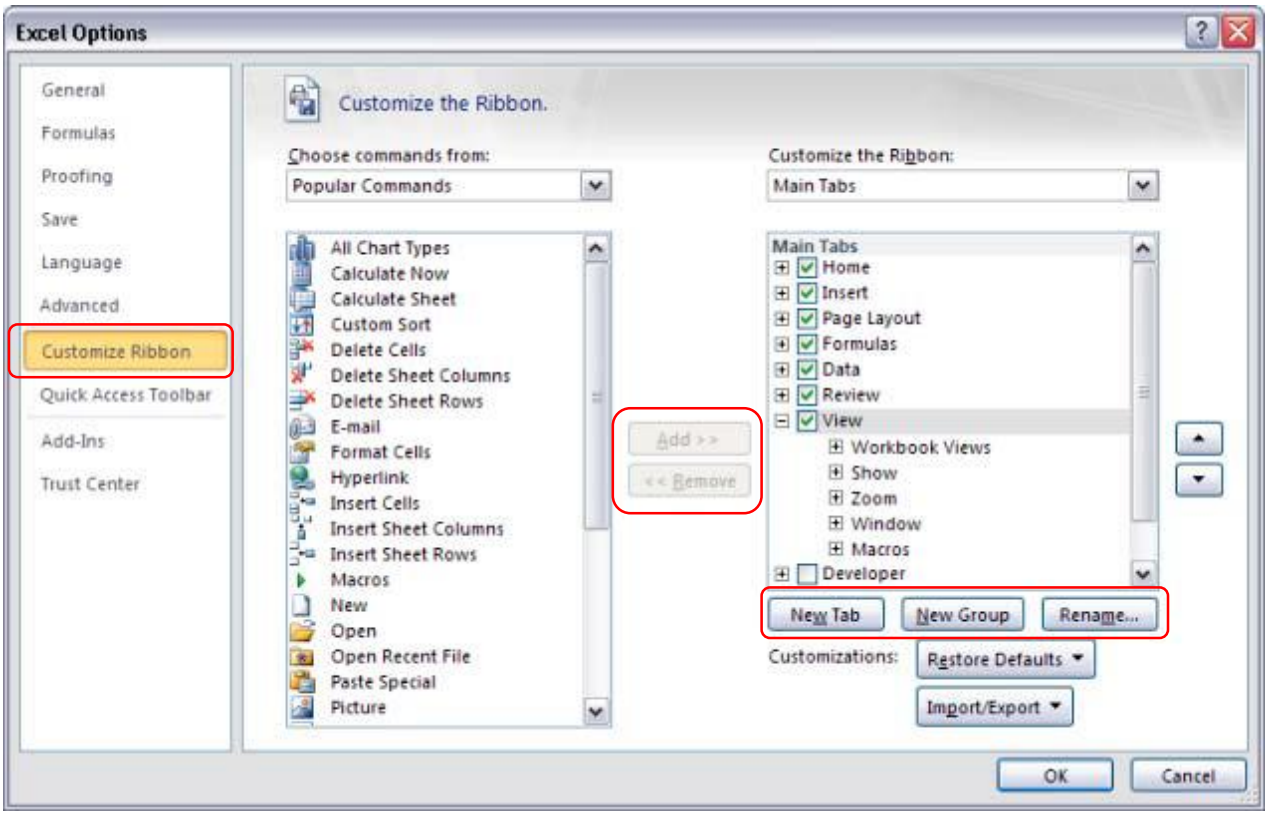


Go To Special searches within the selected range, if you want to select the entire worksheet ensure that only one cell is selected

2. You can see the that dialogue box has options to directly select the desired type of cells
3. You can choose any of the options for the desired purpose and excel will select all the cells in that worksheet that meet your choice

Tip #76 : Customizing Ribbon to suit your needs

Excel 2010 & above versions have gone a step further to make working on excel convenient for you. Customizing ribbon allows you to add a Tab with tools and buttons of your own choice. Check this out



1. When you click New Tab, you can add a custom tab and custom group. You can only add commands to custom groups
2. To rename a tab, click the tab that you want to rename and click Rename

Section 9

VBA Automation & Quick Resources

Tip #77 : 60 VBA Shortcuts

I have put together a list 60+ VBA Shortcuts that will boost your speed and productivity while using VBA. Be it editing the code, debugging it, navigating the VB window or accessing far off options in the menu bar.. its all in here. 60+ VBA Shortcuts

Tip #78 : Consolidate Data from Multiple Sheets

One of the common problems in managing data is bringing it all together. Let's say we have some data scattered in multiple sheets that we want to bring it together in a single sheet. How would you do it?

One way is to copy it from multiple sheets and paste it at one location or the smarter was is to write a simple macro to do the same for us.

Here is a short VBA code that will help you Consolidate data from multiple sheets

Tip #79 : Create an Index from Sheet Names in Excel

If you have multiple sheets in your workbook and you would like to create an Index Sheet with hyperlinked names to all the sheets, here is smart and quick way to do it with a short macro code. Create a sheet index in Excel

Tip #80 : Covert numbers into Indian Currency Words

Number	In Words
1	Rupees One and Paise Zero Only
2	Rupees Two and Paise Zero Only
200	Rupees Two Hundred and Paise Zero Only
400	Rupees Four Hundred and Paise Zero Only
2,450	Rupees Two Thousand Four Hundred Fifty and Paise Zero Only
3,00,002	Rupees Three Lakhs Two and Paise Zero Only
20,03,000	Rupees Twenty Lakhs Three Thousand and Paise Zero Only
33,033	Rupees Thirty Three Thousand Thirty Three and Paise Thirty Three Only
697,51,800	Rupees Six Crores Ninety Seven Lakhs Fifty One Thousand Eight Hundred and Paise Zero Only

This is one of the top request from accountants : How can I convert numbers into words. There is not a straight way to do it but a macro. The code is pretty complex but you need not worry, all you have got to do is to copy and paste the code and that's it
Get my step by step instruction here – Convert numbers into Indian Currency Words

Tip #81 (Bonus Tip) : Unhiding Multiple Sheets at Once

Excel can hide multiple sheets at a time but cannot unhide all of them at one go and it gets quite irritating at times. Here is short code to make you rid of the itchy feeling while unhiding sheets **:D**
Unhide all Sheets at Once

Thank you for reading...

I hope you enjoyed reading this EBook!

I encourage you to write to me for any excel questions or even if you would like to drop in a "hi" on goodly.wordpress@gmail.com, I will be more than happy to help you in the best way I can. Also do not forget to send this eBook to your friends who need it!

Cheers & stay tuned to **Goodly**

Chandeep

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